

Kingston Smart Growth District Design Standards and Procedures

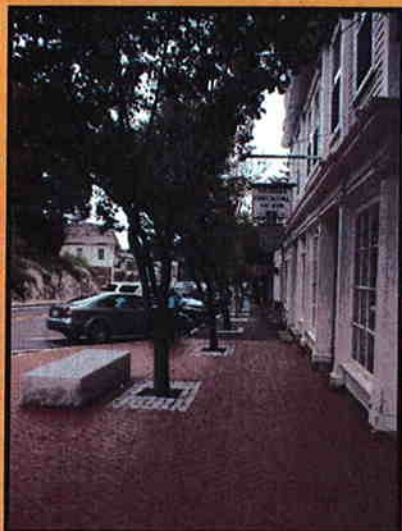
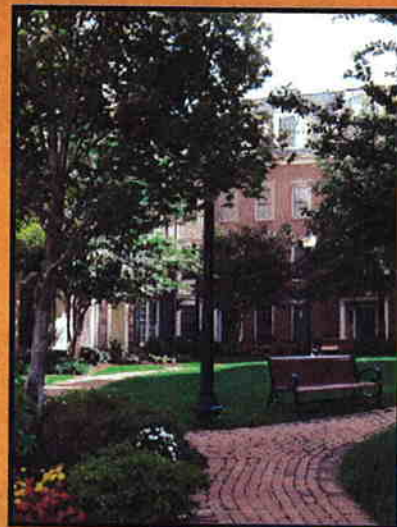
prepared by the Kingston 40R Design Review Drafting Committee

with assistance from
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Kingston, Massachusetts

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Introduction

The Kingston Smart Growth District, Sec. 4.15 of the Zoning Bylaw of the Town of Kingston (the "District Bylaw"), is an overlay zoning district adopted pursuant to M.G.L. c.40R Smart Growth Zoning and accompanying Regulations at 760 CMR 59.00. It is the intent of the Design Standards that upon the adoption of these standards that the Planning Board would amend their Subdivision Rules and Regulations to be consistent with these Design Standards. The District Bylaw allows residential development in several forms, including Single-Family Attached and Detached Dwelling Units, Mixed-Use and Multi-Family Dwelling Units along with Office, restaurant, and retail development. The District Bylaw encourages a mix of uses with architectural and site design features consistent with the District Bylaw and these Design Standards. The Kingston Smart Growth District (the "District") shall be deemed to overlay the parcels as shown on the Zoning Map of the Town of Kingston, as amended.

1. Purpose

These Design Standards supplement the District Bylaw, and include both binding Standards for Compliance and non-binding Guiding Principles as more fully described herein. The Standards for Compliance shall be used by the Planning Board of the Town of Kingston (the "Planning Board") in their review and consideration of Development Projects proposed pursuant to the District Bylaw.

A Development Project shall be approved by the Planning Board upon a finding that it complies with the District Bylaw and the Standards for Compliance included in these Design Standards.

2. Applicability

The Standards for Compliance contained herein shall apply to Development Projects within the District that are subject to Site Plan Approval under the District Bylaw. The Applicant shall comply with the Standards for Compliance contained herein, unless an exemption from the Standards for Compliance is specifically authorized by the Planning Board. Such exemption may be concurrent with the review process.

In the case of inconsistency between the District Bylaw and these Design Standards, the District Bylaw shall govern. In the case of inconsistency between applicable state or federal laws, including, without limitation, state building codes or life safety codes, and these Design Standards, the applicable state and federal laws, rules and regulations shall govern.

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3. Definition of Terms

In addition to the Definitions included in Sec. 4.15.4 of the District Bylaw, which are incorporated herein by reference, the following terms shall have the meanings set forth below.

BLANK WALL ELEVATION. The elevation of a Single-Family Detached Dwelling Unit that is opposite the Courtyard Elevation.

BUILDING FORMS. Graphical depictions of dimensional requirements such as height, setbacks and façade differentiation applicable to specific building types.

COURTYARD ELEVATION. The side of a Dwelling Unit that abuts usable outdoor space accessible from that Dwelling Unit.

DEDICATED PARKING. On-street parking, which shall be labeled on a Development Project's Site Plan and counted towards the total number of required parking spaces.

DISTRICT MASTER PLAN. An optional plan that may be submitted by an Applicant within a pre-application review that includes the location and size of Traveled Ways, pedestrian and bicycle circulation network, proposed project mitigation and phasing, and Public Open Spaces.

DRIVEWAY. A vehicular way which is built for access to a garage or off-street parking or loading space.

FIRST DEVELOPMENT PROJECT. The initial submission approved by the Planning Board of a Development Project within the District of any permitted use.

FOCAL POINT. A site design element that may include a prominent architectural or natural feature that is situated or designed to be visible from more than one Public Space or Traveled Way within the District.

FUTURE OPEN SPACE. Future Open Space as defined by the 40R Smart Growth Statute and Regulations.

GREEN ROOF. A vegetated roof system that stores some rainwater in a lightweight engineered soil medium, or other manner such that the water is taken up by plants and transpired into the air.

MASTER DEVELOPER. An entity empowered by a majority of the landowners within the District to create a District Master Plan and to be responsible for the coordinated development of the required Public Open Spaces and Public Roadways within the district which benefit all landowners within the District. For the purposes of discharging the responsibilities described in these Design Standards, a Master Developer shall be deemed to have standing before the Planning Board if it has received written authorization from a majority of the landowners within the District. Each landowner shall have a weighted vote

proportional to the gross number acres owned or controlled within the District when compared to the total number of acres within the District.

MBTA COMMUTER RAIL STATION. The Kingston Station at Marion Drive on the Massachusetts Bay Transportation Authority (MBTA)'s Commuter Rail Line.

PARKING LOT. Ten (10) or more parking spaces grouped together, along with vehicular access through driveways that provide internal circulation to said parking spaces.

PEDESTRIAN SCALE. Pedestrian Scale is the use of elements which can be experienced or used by a passing pedestrian at street level such as: front porches, awnings, bay windows, attractive trash receptacles, benches, bicycle racks, decorative sidewalks, drinking fountains, kiosks, neighborhood directories, signage, landscaping, lighting, outdoor fountains, plazas, and public art.

POCKET PARK. A small landscaped area accessible to the general public that is primarily intended for passive recreation. These parks may be within any subdistrict, and may or may not be Future Open Space.

POND PARK. A curvilinear park of 7 - 10 acres in size, located within the Conservation/Recreation subdistrict, adjacent to the Parkway. Portions of the Pond Park may be Future Open Space.

PRESERVED WOODLANDS. Areas located within the Conservation/Recreation subdistrict, adjacent to Smelt Brook, Raboth Road, and/or adjacent properties. These Preserved Woodlands shall mostly include existing tree canopy, but may also include stormwater infrastructure and cleared areas for underground utilities, trails, grading, and/or wildlife habitat. Portions of the Preserved Woodlands may be Future Open Space.

PRIMARY TRAVELED WAYS. Roadways within the Smart Growth District that collect traffic from individual neighborhoods and provide through connections to points of interest outside the District either independently or in combination with other Primary Traveled Ways.

PUBLIC OPEN SPACE. An area of land such as a square, green, neighborhood park, pocket park, and linear pedestrian park which is located and designed for public access by pedestrians and/or bicyclists for passive or active recreation.

PUBLIC ROADWAYS. A Traveled Way located within a right-of-way shown on a plan approved and endorsed in accordance with the "Rules and Regulations Governing the Subdivision of Land" for the Town of Kingston, and the Subdivision Control Law, M.G.L. c.41, Sec. 81K to 81GG.

PUBLIC SPACES. Areas of land that are open to the public and not gated for use by a particular community.

SECONDARY TRAVELED WAY. A roadway that in general connects to a Primary Traveled Way and which is intended to be used principally by those seeking direct access to adjacent uses on the roadway. Traveled ways that are not Primary Traveled Ways or Alleys are Secondary Traveled Ways.

SETBACK. The minimum horizontal distance between the face of curb of the adjacent traveled way (or the edge of pavement if the adjacent traveled way is not curbed) and the nearest front, side, or rear line of the building (as the case may be), including terraces or any covered projection thereof, but excluding balconies, stoops or steps, chimneys and bulkheads.

SQUARE. A portion of the District's Future Open Space which shall be located in close proximity to the train station and which is intended to function as a central gathering place and focal point for the entire District.

TRAVELED WAY. A way intended for use by the general public for the multi-modal movement of vehicles, bicycle lanes, sidewalks and/or shoulders. Alleys, driveways, and driving lanes internal to parking lots are not considered Traveled Ways.

USABLE OUTDOOR SPACE. Outdoor space, comprised of hard and/or soft surface, whose primary purpose is active or passive recreation, and which is intended for the benefit of a single or specific group of residential units.

VISUAL INTEREST. Awareness of one's environment through the use of elements such as textures, patterns, forms, color, or movement.

ZERO LOT LINE. The location of a building on a lot in such a manner that one or more of the building's sides rests directly on a lot line or the edge of an Exclusive Use Easement Area.

4. Review Process

Introduction.

Upon the Town's adoption of a Smart Growth District under Chapter 40R of the General Laws governing the development in Kingston's Place 40 R Smart Growth Zoning District ("District Bylaw"), the Planning Board shall be authorized to be the approving authority for site plan approvals within the District. In anticipation of such adoption, and upon their approval by the Department of Housing and Community Development ("DHCD") the following shall serve as the administrative rules regarding the submission and review of site plans and their modifications under the District By-law and Chapter 40R.

Relationship to District By-law and the Design Standards.

The Planning Board shall review applications for Development Projects within the District for compliance with the District Bylaw and the Design Standards which are adopted by the Planning Board and approved by DHCD. The rules and regulations are intended to supplement, and not to supersede, the procedures set forth in the District By-law and Chapter 40R. The implementation of certain Development Projects or portions thereof, as anticipated under the District Bylaw, will require the subdivision of sites within the District. It is the intention of the Planning Board that upon the adoption and approval of the Design Standards, to amend the subdivision rules and regulations to be inclusive of and consistent with the Design Standards.

4(A) Pre-Application Review.

- 4(A)(1) The District Bylaw encourages a pre-application Planning Board review of Development Projects proposed within the District. The goals of the pre-application review are as follows:
 - 4(A)(1)(a) Establish fixed elements such as existing traveled ways, property lines, abutting uses and existing uses to remain and development constraints within the District to guide subsequent site planning.
 - 4(A)(1)(b) Pursue agreement between the Applicant and the Planning Board on the goals for public spaces, focal points, and transportation network within the District.
 - 4(A)(1)(c) Enable the Applicant to take into account fixed elements, location and size of public spaces and focal points, and walkways while proceeding with site planning and engineering for consideration within Site Plan Review.
- 4(A)(2) If a pre-application review is requested by the Applicant, the Applicant may file the following with the Planning Board during the pre-application review:
 - 4(A)(2)(a) A project statement that outlines the Applicant's vision for the Development Project. The vision should suggest the type of

community the Applicant hopes to create and how the Applicant's vision is consistent with the District Bylaw, these Design Standards, and any applicable District Master Plan.

- 4(A)(2)(b) A fixed element plan depicting fixed elements such as existing traveled ways, property lines, abutting uses and existing uses to remain.
- 4(A)(2)(c) A development constraints plan depicting wetlands, waterbodies, setbacks and buffer zones from wetlands and waterways, rights-of-way, easements and the MBTA commuter rail station and associated access and/or parking.
- 4(A)(2)(d) A circulation plan including major traveled ways, sidewalks and walking paths, bicycle paths, emergency access routes, and public spaces.
- 4(A)(2)(e) A development analysis plan depicting the size and location of post-development public and private areas and how public and private uses within the project will interact with one another, and site drainage facilities.
- 4(A)(2)(f) Development information including conceptual building locations, massing, vehicular access and public spaces.

The Applicant may submit one plan containing the information referenced in subsections 4(A)(2) (b) – (f) above. The Planning Board will provide comments during this informal pre-application review process. Based on comments received on the plan, the Applicant may prepare a District Master Plan or Site Plan for a Development Project for Site Plan Review.

4(B) District Master Plan.

- 4(B)(1) The submission of a District Master Plan is voluntary and shall be made at the election of a Master Developer.
- 4(B)(2) A District Master Plan for the District or a portion of the District may only be filed by the Master Developer. A Master Developer is a party authorized by the owners of all the land in the District whose land is the subject of a District Master Plan (other than the portions thereof in public ownership) to act as such. Following the approval of a District Master Plan, only the Master Developer shall have the authority to seek amendments to the Master Plan, and only as long as the Master Developer is authorized by owners of at least 25% of the land area within the District to seek such amendment. In the alternative, the landowners of at least 67% of the land area within the portion of the District that is subject to a Master Plan may seek an amendment to the District Master Plan to the extent it encompasses the land owned by such land owners.
- 4(B)(3) In acting on any request for approval or amendment of a District Master Plan, the Planning Board will follow the procedures applicable to its review and approval of site plan so far as apt. A District Master Plan shall include the location and

scale of traveled ways, pedestrian and bicycle circulation network, and public open spaces.

4(B)(4) If a District Master Plan for the District or a portion thereof is approved by the Planning Board, subsequent applications for all Site Plan Approvals within the District or the portion thereby subject to a District Master Plan will be reviewed for compliance with the District Master Plan as the same may have been amended as provided in Section 4(A)(2).

4(B)(5) The Planning Board cannot issue a Site Plan Approval that necessitates a change in an approved District Master Plan unless the District Master Plan is amended to reflect the changes included in the Site Plan Approval.

4(C) Site Plan Approval.

4(C)(1) The site plan for a Development Project shall:

4(C)(1)(a) Reflect the lot configuration of any subdivision plan approved or to be approved thereof and shall depict, in detail, the layout of all roadways, the elements of the drainage system, the signage and the intended use(s) of the buildings to be constructed as part of the Development Project and one or more building envelopes in which the buildings are proposed to be constructed;

4(C)(1)(b) Depict the architectural design of the buildings and other structures intended to be constructed therein in sufficient detail so as to enable the Planning Board to determine whether such architectural design is in conformity with the Design Standards.

4(C)(1)(c) Depict, in detail sufficient for the Planning Board to determine its consistency with the Design Standards, the landscaping intended to be planted and maintained in the Development Project for which the site plan approval is requested.

4(C)(2) The final location of single-family attached and detached buildings and structures within the building envelopes shall be shown on the plans submitted to the Building Inspector at the time an application is made for building permit.

4(C)(3) The adjustments in the parking areas and the landscaped areas necessary to accommodate the final placement of such buildings in the building envelopes shall be included in the plans submitted to the Building Inspector.

4(C)(4) The submission and review of the Site Plan for a Development Project shall be in accordance with the requirements of Section 4.15.13 of the District Bylaw.

4(D) Minor Changes to an Approved Site Plan.

The Planning Board, where it is not otherwise in conflict with the District Bylaw, these Design Standards and an approved Master Plan, may approve minor engineering changes to a Site Plan Approval. Requests for approval of minor engineering changes

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shall be submitted to the Planning Board on forms provided by the Planning Board. Such written request shall be accompanied by redlined plans indicating the changes to be made and a statement supporting the basis for approving the minor engineering change. The Planning Board shall have sixty (60) days to comment on the proposed change (unless a longer period of review is mutually agreed upon by the Applicant and the Board) and shall either approve the change as submitted, approve with comments or disapprove with comments in which case the Planning Board shall cite the specific section of the District Bylaw, Design Standards or, if applicable, Master Plan which the change violates. If the Planning Board fails to act within sixty (60) days, the change shall be deemed approved. The Planning Board may appoint an agent of the board to review and authorize proposed minor changes. The applicant may proceed with construction of the minor changes during review of a minor engineering change at its own risk. A filing fee may be required with applications for approval of Minor Engineering Changes

Minor engineering changes may include, but are not limited to:

- (i) The total number of parking spaces.
- (ii) Relocation of drainage structures and components (surface/stormwater).
- (iii) Removal of underground storage tanks and other underground utilities.
- (iv) Changes in site/building elevations, and topographic changes on portions of the site.
- (v) Changes in lighting or landscaping elements.
- (vi) Change in walkways and handicapped access ways.
- (vii) Changes in the type of screening/rubbish collection areas.
- (viii) Changes in Building Footprint which will not increase the gross floor area of the building or buildings within the approved Site Plan beyond the Building Envelope specified on the approved plan.
- (ix) For non-single-family buildings and associated parking lots, changes in:
 - a. exterior doorways, the location or placement of doorways, entrances and windows, and the design of a building facade which otherwise conforms to the District Bylaw;
 - b. the exterior stairways and loading docks which constitute a reduction in size of these building details;
 - c. Parking space sizes and alignment;
 - d. Curb opening dimensions and locations

Any modifications listed above which are implemented in connection with the final placement of a building in a building envelope as described in Section 3 of these rules and regulations shall not be considered minor engineering changes which require submission to the Planning Board, but instead shall be reflected in the plans submitted to the Building Inspector under Section 3.

4(E) Post-development change in use, Modifications and additions.

- 4(E)(1) Change in use. Applications for a change in use of existing Development Projects shall be subject to the site plan review process and requirements of the District Bylaw and Design Standards unless the Planning Board determines that such change is sufficiently minor in nature that such review is inappropriate and

approves the change in use as a minor change. A filing fee may be required with applications for approval of change in use.

- 4(E)(2) Modifications or additions. Applications for exterior modifications (but not repairs or replacements) or additions to existing buildings in Development Projects, including the addition of In-Law Apartments, shall be subject to the site plan review process and requirements of the District Bylaw and Design Standards unless the Planning Board determines that such modification or addition is sufficiently minor in nature that such review is inappropriate and approves the modification or addition as a minor change. A filing fee may be required with applications for approval of renovations or additions.

5. Guiding Principles

These Guiding Principles are goals and aspirations that the Town of Kingston encourages Applicants to strive for in their Development Projects. These Guiding Principles shall not be applied as specific regulatory standards.

5(A) Mix of uses.

The Kingston Smart Growth District is designed to include a mixture of uses including nonresidential land uses, such as commercial and open space, designed to complement the residential land uses in design and scale. Mixed use design promotes a neighborhood or community focal point, including a mix of housing types and sizes to accommodate households of a broad range of ages, sizes, incomes and physical abilities. The overall site design should provide a variety of lot sizes and densities, and should allow a mix of Single-Family Detached Dwelling Units, Single-Family Attached Dwelling Units, and Multi-Family Dwelling Units. To encourage creative design and dynamic neighborhoods, housing may be provided adjacent to or above commercial uses such as shops or offices.

5(B) Compact development and human scale design.

The Kingston Smart Growth District is intended to encourage compact developments in order to promote a more efficient use of land, reduce dependency on vehicles for travel, and reduce the costs of providing public infrastructure and services. Development should be designed for the human scale, taking into account the relationship between the dimensions of the human body and the proportion of traveled ways, public spaces and buildings.

Design should consider how various site features relate to the pedestrian, and should include paths with destinations

and comfortable seating areas spaced periodically within walking distance of one another. The height of buildings, the design of street lights and signs, sidewalks, and other features should be determined based on what will create a pleasant environment for the pedestrian at street level. Civic spaces such as parks and/or public buildings should be included to promote social and community interaction. Residential, commercial, and civic buildings should be located within close proximity to one another in order to encourage people to walk among the various types of buildings.



Mixed-uses in traditional New England towns are successful because of their attention to human scale design in buildings, street furniture, and landscaping.

5(C) Multiple modes of transportation.

The District should provide an interconnected network of circulation systems that facilitate walking, bicycling, and driving. Streets should be designed to establish a satisfactory level of service for vehicular travel, and promote the safe and efficient use of different transportation modes. A grid street pattern should limit the need for cul-de-sacs and dead-end streets in order to create multiple routes for pedestrians, bicyclists, and motorists. Independent networks of sidewalks and bikeways should complement the primary street network, and the overall transportation network should invite and encourage pedestrian activity. Streets should be narrow and should incorporate “traffic calming” techniques, such as differentiated paving, smaller turning radii, and/or street trees, to slow traffic speed and promote pedestrian safety. Front porches and other amenities such as street trees should be incorporated into site and building design to enhance the pedestrian experience. The mixed uses of the District shall also encourage walking if shops, offices, and public services and facilities are within walking distance.

5(D) Neighborhood patterns and densities.

Both public and private spaces should be included in the community. Public buildings and spaces are open to everyone. Site design should create identifiable and practical hierarchies among site elements. The Traveled Ways and sidewalk designs should distinguish among those routes intended for principal public access and use, and those that provide for internal circulation or service requirements. Public spaces should range in scale and character, adapting to the active or passive use for which they are intended. Building elements should allow recognition of those uses, entrances and areas that are intended to invite and engage the public.

Overall site design should include architectural transitions between the several sub-districts within the overlay district. Building scale and materials should provide a visual signal that the pedestrian is moving from one sub-district to another. Abrupt transitions in building height, such as locating a four-story building immediately adjacent to a one-story building on the same side of the street, are discouraged.

Buildings should be designed to reflect New England “village” architecture, including Greek Revival, Georgian, Colonial Revival, Shingle, and Stick. The design of buildings within the District should capture this varied approach to design while remaining true to historic New England form. Architecture should be varied but compatible in scale. When complete, the District should appear to be a 21st century New England Village with roots in New England architecture.

5(E) Sustainable development.

Many sustainable development principles (such as building compact neighborhoods on already developed sites adjacent to transit hubs, preserving

natural areas, creating pedestrian and vehicular connections to adjacent properties) are inherent to the overall Zoning Plan of the Kingston Smart Growth District. As a whole, the District should encourage energy efficient and environmentally sensitive development of the site and buildings and will facilitate residents' efforts to do the same. Where feasible, structured parking or parking sub-grade or on the first level of multi-family buildings is encouraged in order to minimize impervious surfaces and reduce the overall visual impact of Parking Lots.

Integrated with the principles of smart growth are urban design concepts such as pedestrian-oriented neighborhoods, transit-oriented developments, traditional neighborhood design, and green building practices. The overall development within the Smart Growth District will be a successful smart growth neighborhood if it protects and enhances the overall health, natural environment, and quality of life of our community. Air, water, light, and land pollution should be minimized. Both site design and construction of buildings should result in efficient use, reuse, and recycling of resources, including energy, water use, and construction materials.

5(F) Landscape design character.

Overall composition and location of landscaping should complement the scale of the development and its surroundings. In general, larger, well-placed contiguous planting areas are preferred to smaller, disconnected areas. Smaller landscaped areas and Pocket Parks should be integrated throughout the development with an emphasis on functionality – such as providing a comfortable, shaded place to sit – and not simply aesthetic appeal. Landscaping should be arranged in such a way as to act as a unifying element between buildings, roads, pathways and public spaces. Special attention should be given to street trees which in general should be located between curb and sidewalk and should be continuous along all Primary and Secondary Traveled Ways except where the design of adjacent public spaces supports an exception.

Different public spaces may be landscaped in formal or informal style based on location and proximate uses. Formal landscaping is generally preferred in public spaces adjacent to the Parkway, the Square, and pedestrian access to MBTA Station. Informal landscaping is generally preferred for portions of the Pond Park, Pocket Parks not located adjacent to Primary Traveled Ways, and for the access area to publicly owned land and pedestrian trails to the southwest of the District.

5(G) Neighborhood Gateways.

Overall site design should include prominent, attractive gateways for the district as an organizing principle. Design should consider the initial visual impression of the site for people driving to the site from the new Parkway at Marion Drive, or walking to the site from the Kingston MBTA Station. The street network, sight lines, mix of uses, public spaces, signage, building height,

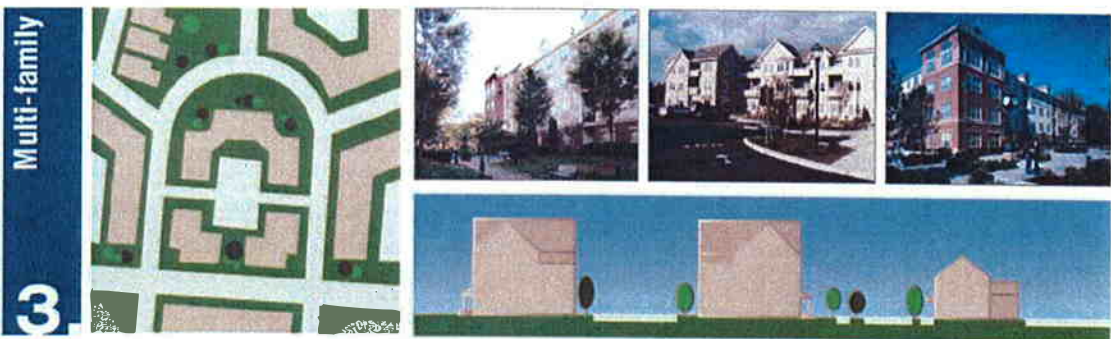
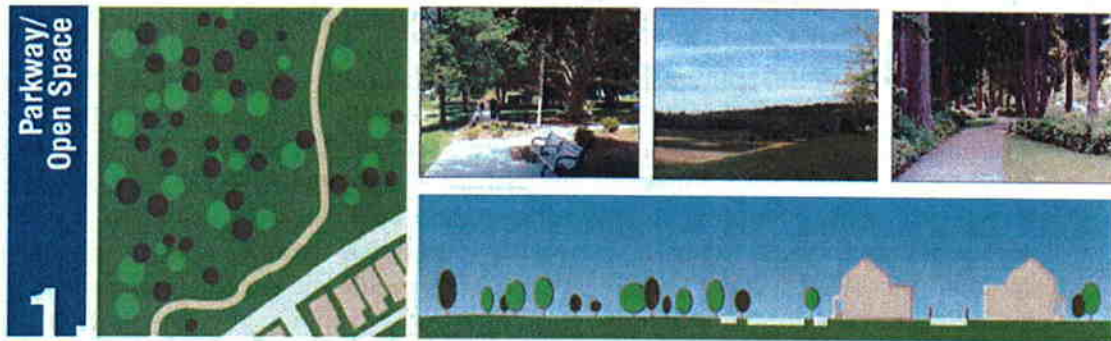
materials, lighting, landscaping, and setbacks should be chosen to create and reinforce a specific sense of place for both the Gateway Areas.

Higher density and larger scale buildings shall generally be located near the Square area and the MBTA Station, with a gradation of density and scale of buildings tapering off toward the edges of the District, particularly the areas closer to Raboth Road to the west and southwest of the District. Residential housing close to the train station will feature building styles with increased bulk and dimensions to accommodate increased density commonly found near commercial and transit centers. Increased density should incorporate a variety of architectural forms including townhouses, multifamily buildings, and mixed-use development. In some cases, cottages or small houses on smaller building lots and accessory dwelling units to existing single family homes may be interspersed to enhance the architectural transition from higher density core locations to adjacent neighborhoods of single family homes.

5(H) Transect.

The Transect is a drawing which illustrates the transitions through a series of spaces which differ in geography, density, and use. The Kingston Smart Growth District Transect illustrates the transitions between Parkway or Public Open Space areas, lower-density Residential development such as Single-Family Detached homes, higher-density Residential development such as Multi-Family buildings, and Mixed-Use development. As illustrated in the Transect, transitions should not be abrupt, but rather should be buffered with landscaping elements and Open Space as appropriate, integrating the natural surroundings into the built environment in a harmonious manner.

5(H) Kingston Smart Growth District Transect



6. Site Design Standards for Compliance

6(A) General.

The District Master Plans and Site Plans are anticipated to propose three major land uses: (i) Traveled Ways; (ii) Public Open Spaces; and (iii) Development Projects. Design Standards applicable to all of these uses are described in this Section 6(A), and specific Design Standards for each major land use are described in Sections 6(B) through 6(F).

6(A)(1) Sustainable Development. Leadership in Energy and Environmental Design for Neighborhood Developments (LEED-ND Standards) shall be applied to the Smart Growth District.

6(A)(1)(a) To integrate the principles of smart growth and green building into the 40R Smart Growth District, development shall conform to the manual called "LEED for Neighborhood Developments Rating System - Preliminary Draft, September 6, 2005" (Draft Document), such that the District as a whole could be recognized by the U.S. Green Building Council as "LEED-ND-Certified" if the Draft Document were adopted as final.

6(A)(1)(b) The selection of plant materials shall be based on the Town's climate and site conditions. Emphasis shall be placed on landscape selections that are native to the area and sustainable over the long term. Invasive species and plant species listed on the Massachusetts Department of Agricultural Resources Prohibited Plants List are prohibited.

6(A)(1)(c) Provided the final rating system does not impose greater restrictions than the current draft, applicants of Development Projects shall be expected to adhere to the final rating system and seek LEED-ND-Certification.

6(A)(1)(d) In connection with the filing of a Master Plan for the District as a whole or a portion of the District, the Master Developer shall submit documentation detailing a program for achieving LEED-ND Certification, or in the event the Draft Document remains in effect, a program that would likely result in certification if the Draft Document were the final document. All Development Projects filed subsequent to the adoption of a Master Plan shall demonstrate as part of their submission to the Planning Board how they will comply with the standards set forth in the Draft Document upon completion sufficient that they would qualify for LEED-ND Certification. In detailing compliance, individual Development Projects may take credit for standards achieved or anticipated to be achieved upon completion of the Master Plan provided they are in compliance with the approved Master Plan.

6(A)(1)(e) A Development Project filed which is not subject to an approved Master Plan shall submit documentation to the Planning Board sufficient to demonstrate

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television, internet and successor applications. All new utilities (except structures and other facilities that require above-grade access) shall be installed underground. Underground electric boxes and other utility covers located outside of streets shall be flush with surface grade and located within sidewalks wherever possible.

- 6(A)(4) Screening. Decorative walls, shrubs, solid fencing or other view-obstructing materials shall be used to conceal major mechanical, electrical, and communications equipment, trash dumpsters, delivery areas, and outdoor storage areas from view of Primary Traveled Ways and nearby dwellings at the same or lower elevation as these areas.
- 6(A)(5) Retaining walls. Retaining walls adjacent to Public Spaces or Traveled Ways shall be constructed of stone, decorative block, stamped concrete or stone veneer.
- 6(A)(6) Stormwater management.

6(A)(6)(a) General. The stormwater management measures proposed for the site shall conform to the best management practices described in the Commonwealth of Massachusetts Stormwater Management Handbooks, as may be amended from time to time.

6(A)(6)(b) A central water feature, herein referred to as the Pond Park, shall be included within the overall site design, and shall function as a stormwater retention basin. Surface stormwater basins including the central water feature and smaller sediment basins, water quality, detention, and retention ponds shall be designed to be accessible, and to serve as visual assets for passive recreation wherever practical. Water features should provide a functioning ecosystem designed with plant materials and varying habitats and elevations to treat stormwater quality, quantity, velocity, and temperature.



Man-made pond designed to be visually pleasing, part of a functioning ecosystem, and provide storage and treatment of stormwater runoff.

6(A)(6)(c) Roof water. Wherever practical, roof surfaces of buildings shall be infiltrated into the ground either by directing runoff to pervious areas, directing water to basins containing water treatment facilities or through direct underground recharge. Subject to other applicable permits, Applicants may alternatively propose, at the option of the Applicant, the use of green roofs.

6(A)(6)(d) Infiltration systems. All systems which deliver or may discharge water into the ground shall be sufficient to treat said water so as to achieve any and all applicable effluent standards of the Massachusetts Department of Environmental Protection (DEP), as applicable to the particular structure, its proposed use and the soil and groundwater conditions of the proposed site.

6(A)(7) Operations and Maintenance Plan. An Operations and Maintenance Plan (O&M Plan) shall be submitted for the District as a whole or for individual Development Projects and shall include a list of drainage facilities, a statement regarding the party responsible for operations and maintenance of the facilities, and should include a commitment to use safe and low-pollutant fertilizers and pesticides such that the water quality of Smelt Brook and/or groundwater designated as drinking water sources are not degraded. The O&M Plan shall also include maintenance for Traveled Ways and stormwater structures associated with the Traveled Ways intended to remain in private ownership for review by the Planning Board. A homeowners' association, a condominium association and/or a business owners' association may be established to ensure that all private Traveled Ways and associated drainage facilities shall be properly maintained.

6(B) Traveled Ways, Alleys, and Paths.

6(B)(1) Multitmodal network.

6(B)(1)(a) Transportation network. A hierarchical transportation network shall be designed that includes a central Parkway and a series of internal Traveled Ways providing access to future development within the District. The Parkway will extend from an intersection with Independence Mall Way and Cranberry Road, into and through the District along the alignment generally shown on the Zoning Map. The Parkway in its entirety shall be governed by these Design Standards. The overall transportation network shall provide for different modes of transportation including walking, cycling, driving and public transportation. Motor vehicle circulation shall be designed to minimize conflicts with pedestrians and bicycles. Convenient pedestrian access shall be provided from the District to the Kingston MBTA Commuter Rail station.



A double row of street trees on one side of the parkway makes a powerful impact on the street's character and enhances the pedestrian experience.

- 6(B)(1)(a)(i) Parkway. A central Parkway shall be provided as a curvilinear, tree-lined street, and will be the principal collector road within the District. The Parkway shall be designed and constructed to meet the standards for public acceptance as a public right-of-way 60' in width. The Parkway should be designed as

an active recreation public space to promote walking and cycling, and should establish physical connections to public spaces within the overall development to the extent feasible. On-street parking is permitted on one side of the road. In general, the character shall be park-like, with non-marked parking spaces along one side of the road. The design of the Parkway should encourage casual walking, jogging and bicycle riding all designed in such a way that non-vehicular traffic can proceed along the Parkway in a safe and aesthetically pleasing manner. Opportunities for pedestrians to stop and sit along the way should be provided at strategic locations in a variety of landscaped settings including vest pocket parks and points of particular scenic interest.



Curvilinear streets provide changing views as pedestrians and cars travel down a parkway.

- 6(B)(1)(a)(ii) Alleys. Alleys shall be provided both for service vehicles and for use by residents whose homes are served by the alley. Alleys are not designed for through traffic. Alleys should generally intersect with secondary streets, not primary streets,

where possible within the overall site design. Any vertical objects such as optional curbing, low walls or fencing are permitted 8" from the edge of vehicular lanes.



Alleys are designed for service vehicles and access to garages.

- 6(B)(1)(a)(iii) Pedestrian and bicycle routes. The transportation network shall provide both adequate traffic capacity and connected pedestrian and bicycle routes. The transportation network will discourage

access onto Traveled Ways designed for lower traffic volumes, and will promote safe and efficient mobility through the District.

- 6(B)(1)(a)(iv) Network capacity and redundancy. A dense, connected network of Traveled Ways providing multiple access routes and means for transportation will be incorporated into the Site Plan rather than an emphasis on high levels of vehicle capacity on individual arterial facilities. Dead end streets and cul-de-sacs will be minimized.
- 6(B)(1)(a)(v) Street Naming. To provide street names in keeping with the character of the Town, street names shall be subject to the approval of the Planning Board after consultation with the Historical Commission, Fire Chief and the E911 Committee. Proposed street names shall not duplicate nor bear phonetic resemblance to the name of existing public ways, paper streets, or any other way qualified to afford frontage.
- 6(B)(1)(a)(vi) Mailbox Locations. Mailbox locations shall be approved by the Planning Board and in accordance with postal regulations.
- 6(B)(1)(b) Pedestrian network. Site plans for construction in the District should include pedestrian access to buildings, parking areas, and public spaces, and shall be completed with consideration of pedestrian safety, handicapped access and visual quality. All roadways, sidewalks, and parks in Development Projects within the District shall be available for access by the general public, and not enclosed within a gated community. All sidewalks and walking paths shall be open to the public except when hazardous conditions are present that would affect public safety.
- 6(B)(1)(c) Bicycle paths. Bicycle paths may be provided to link residential and mixed-use buildings with the pond, adjacent public spaces, parking areas, recreation and public facilities or sidewalks on adjacent land wherever practical. Where not shared with paved ways or sidewalks (for example, within the Raboth Road Buffer), designated bicycle paths shall be paved with asphalt or a similar smooth and elastic, monolithic surfacing material except in Preserved Woodlands where gravel surfaces are permitted. Where bicycle connections cross Traveled Ways, a change in paving, striping, and/or signage shall delineate the bicycle route.

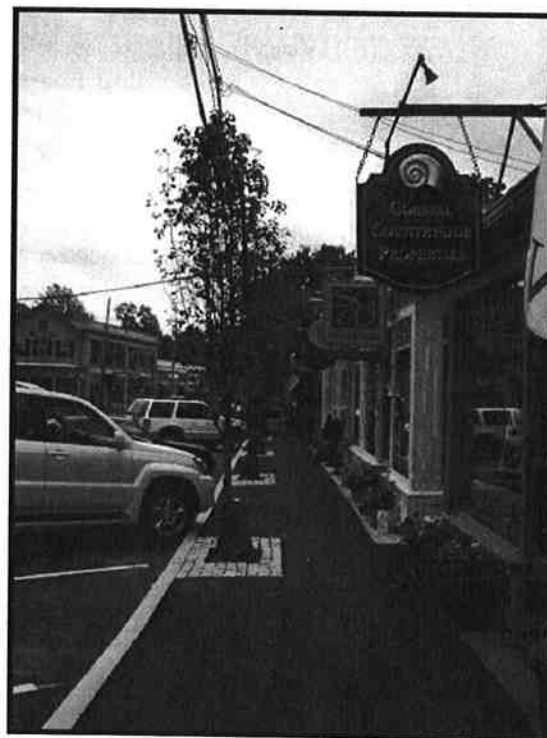
6(B)(2) **Functional Design Elements.** Neighborhood Traveled Ways Design Standards are based on the modular system of multimodal accommodation and context sensitivity described in the 2006 Massachusetts Highway Department Project Development and Design Guide, Chapter 5. Most Traveled Ways other than alleys are intended to be multimodal (vehicular-parking-bicycle or vehicular-parking) and the smallest pavement width possible shall be used while accommodating all users flexibly, safely, and effectively. Unless safety conditions warrant otherwise, it is preferable that these uses not be segregated with pavement markings. Refer to Figures 1, 2.



Sidewalks adjacent to parallel on-street parking are wide enough for pedestrians and bicyclists.

6(B)(2)(a) **Emergency Access.** The Planning Board shall require adequate emergency vehicle access to all Development Projects.

6(B)(2)(b) **Dimensional Requirements.** The dimensional requirements for all Traveled Ways shall be as required in Figure 1 including width of right-of-way (public or private); paved width; travel lane width; parallel parking; bicycle lanes; landscape strips; street trees; and sidewalks.



6(B)(2)(c) **Landscaped Strips.** Residential uses shall have continuous landscaped buffers adjacent to the curb or edge of paving where no curb exists, in a width as required in Figure 1 as measured from face of curb or edge of paving if no curb exists.

Driveways adjacent to commercial areas is buffered with human-scale details such as landscaping, properly-scaled signage and street furniture.

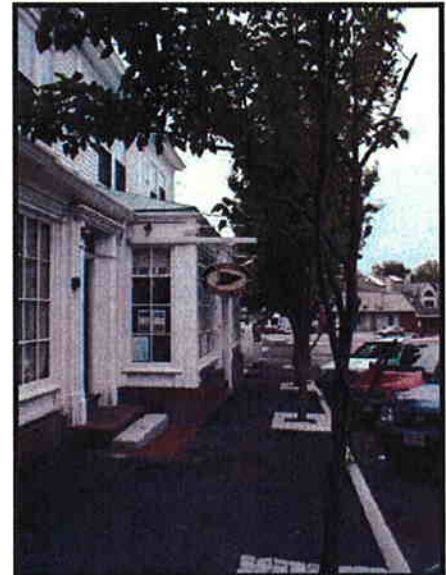
- 6(B)(2)(d) **Street Trees.** Street trees, at least 2.5" caliper, shall be installed on all Traveled Ways with the following exceptions: where a Traveled Way abuts open space on the side of the road abutting Public Open Space the arrangement of trees shall be considered within the context of the design of the public space; and where a Traveled Way abuts Preserved Woodland, or property outside of the District. Where planted, street trees shall be installed 25' on center except in cases where design considerations of adjacent property or public safety provide reason for an alternative spacing.



Street trees provide a buffer between cars and pedestrians.

- 6(B)(2)(d)(i) In Commercial or Mixed-Use areas, street trees shall be planted to provide shade for on-street parallel parking and adjacent sidewalk areas by being located in tree wells or within a continuous landscape strip.

- 6(B)(2)(d)(ii) **Special Consideration at the Pond Park.** Where the Parkway abuts the Pond Park, street trees, shall be arranged so as to be consistent with the overall design of the Pond Park.



Streetscape plantings are planted in tree wells within sidewalks in mixed-use areas. Tree wells allow for street trees while expanding usable sidewalk access in more heavily traveled pedestrian areas.

- 6(B)(2)(e) **Visual Cues.** Where pedestrian connections cross Traveled Ways, visual cues such as a crosswalk or change in paving shall be provided to lessen driver speed.



- 6(B)(2)(f) **Small Radii.** The smallest practical curb return radii shall be used

Painted crosswalks provide a visual cue, indicating to drivers that pedestrians may be present and causing them to reduce their driving speed accordingly.

in an effort to reduce the distance for pedestrian crossing of Traveled Ways. Turning radii on curbed roadways may range from 15' to 25' unless it is found that the Traveled Way is expected to regularly accommodate larger primary vehicles that require larger turning radii.



Bulb-outs narrow adjacent pedestrian crossings and help to define parallel parking areas.

6(B)(2)(g) **Bulb-Outs.** For roadways wider than 26' of pavement, paving shall be made more narrow at pedestrian crossings by adding curb bulb-outs in parallel parking lanes.

6(B)(2)(h) **Parking.**

6(B)(2)(h)(i) **Parallel Parking,** when provided in accordance with Figure 1, shall be 8' wide. All Neighborhood Traveled Ways that provide for on-street parallel parking on at least one side of the roadway shall be 26' in width. In some limited cases it may be necessary or appropriate to the design intent of the Development Project to construct Neighborhood Traveled Ways that prohibit on-street parking. In such cases roadway widths may be reduced to 22'.



Garage access via alleys frees neighborhood streets from multiple driveway cuts, creating a pedestrian-friendly landscape.

6(B)(2)(h)(ii) **Special Consideration at the Square.** Where the Parkway abuts the Square, on-street parking shall be provided in addition to off-street parking to be built within Development Projects. Parking spaces shall be defined with striping or distinguishing paving materials.



Streetscape landscaping changes depending on adjacent uses.

Figure 1

		PARKWAY			PRIMARY TRAVELED WAYS	SECONDARY TRAVELED WAYS	ALLEYS
REFER TO PROTOTYPICAL CROSS-SECTION IN FIGURE 2	60' PARKWAY (ADJACENT TO SQUARE)	60' PARKWAY (ADJACENT TO PUBLIC OPEN SPACE OTHER THAN SQUARE)	60' PARKWAY (NOT ADJACENT TO PUBLIC OPEN SPACE)	50' PRIMARY TRAVELED WAY	40'-50' SECONDARY TRAVELED WAY	18' ALLEY	
WIDTH OF RIGHT-OF-WAY (PUBLIC OR PRIVATE), FEET	60	60	60	50	40-50	18 (2-WAY) 14 (1-WAY)	
PAVED WIDTH, FEET*	34	30	30	26	22-26**	18	
TRAVEL LANE WIDTH	9' -11'	9'	11'	9'	9' -11'	9'	
ON-STREET PARALLEL PARKING	OPTIONAL, ON ONE SIDE, AS SPECIFIED BY DEVELOPMENT PROJECT	NOT ALLOWED	ON ONE SIDE, AS SPECIFIED BY DEVELOPMENT PROJECT	ON ONE SIDE, AS SPECIFIED BY DEVELOPMENT PROJECT	OPTIONAL, ON ONE SIDE, AS SPECIFIED BY DEVELOPMENT PROJECT	NOT ALLOWED	
BICYCLE LANE	4' WIDTH AT STREET GRADE, ADJACENT TO SQUARE	8' SHARED WITH SIDEWALK BETWEEN DOUBLE-ROW OF STREET TREES, OPPOSITE PARK	8' SHARED WITH SIDEWALK BETWEEN DOUBLE-ROW OF STREET TREES, ON SAME SIDE OF ROAD AS ON-STREET PARKING	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	
LANDSCAPE STRIPS PARKING SIDE	5'-7' LANDSCAPE STRIP WITH STREET TREES OR WIDENED SIDEWALK.	TWO 5'-7' LANDSCAPE STRIPS WITH STREET TREES AND 8' SIDEWALK IN BETWEEN	TWO 5'-7' LANDSCAPE STRIPS WITH STREET TREES AND 8' SIDEWALK IN BETWEEN	5'-7' LANDSCAPE STRIP WITH STREET TREES ADJACENT TO BOTH SIDES OF THE ROAD	5'-7' LANDSCAPE STRIP WITH STREET TREES ADJACENT TO ROAD	NOT REQUIRED	
LANDSCAPE STRIPS SIDE OPPOSITE PARKING	14' TO BE LANDSCAPED AND/OR SIDEWALK, INTEGRATED WITH SQUARE'S DESIGN	8' TO BE LANDSCAPED AND INTEGRATED WITH PARK LANDSCAPE DESIGN	5' -7' LANDSCAPE STRIP WITH STREET TREES ADJACENT TO ROAD				
SIDEWALKS PARKING SIDE	5' SIDEWALK MINIMUM	8' SHARED WITH BICYCLE LANE BETWEEN DOUBLE-ROW OF STREET TREES.	8' SHARED WITH BICYCLE LANE BETWEEN DOUBLE-ROW OF STREET TREES.	5' SIDEWALKS ADJACENT TO LANDSCAPE STRIP ON BOTH SIDES OF THE ROAD.	5' SIDEWALK	NOT ALLOWED	
SIDEWALKS SIDE OPPOSITE PARKING	SIDEWALK WIDTH AND ALIGNMENT SHALL VARY AND BE INTEGRATED WITH THE SQUARE LANDSCAPE DESIGN.	SIDEWALK WIDTH AND ALIGNMENT SHALL VARY AND BE INTEGRATED WITH THE PARK LANDSCAPE DESIGN.	5' WIDE SIDEWALK		SIDEWALK DEPENDENT ON USE.***		

* One-Way Traveled Ways may be reduced to 16' in width, and one-way Alleys may be reduced to 14' in width. ** Pavement width of Secondary Traveled Ways may be reduced to 22' in limited cases where it may be necessary or appropriate to construct Traveled Ways that prohibit on-street parking. *** Some Secondary Residential Travel Ways may have sidewalk on one side only, street trees on both sides.

Figure 2

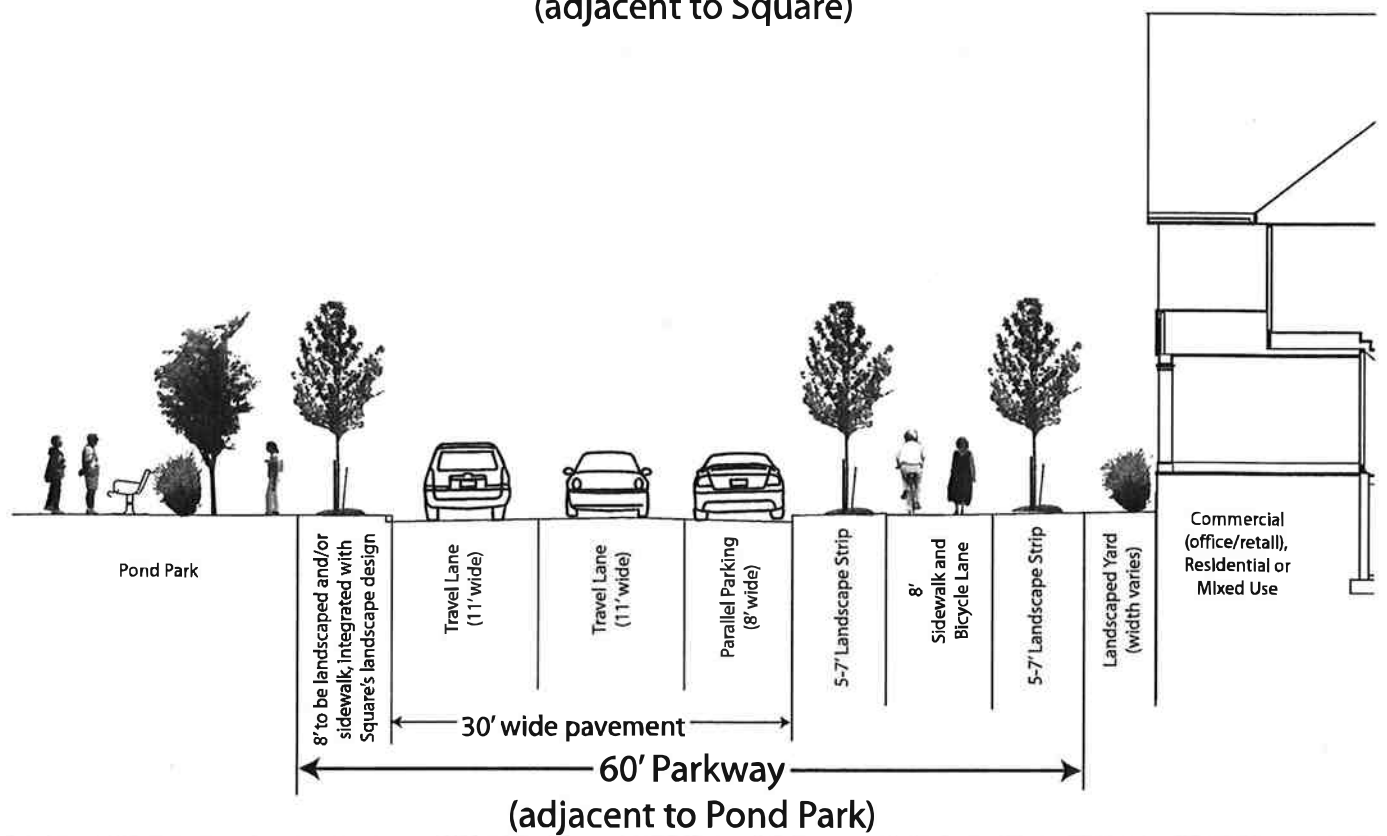
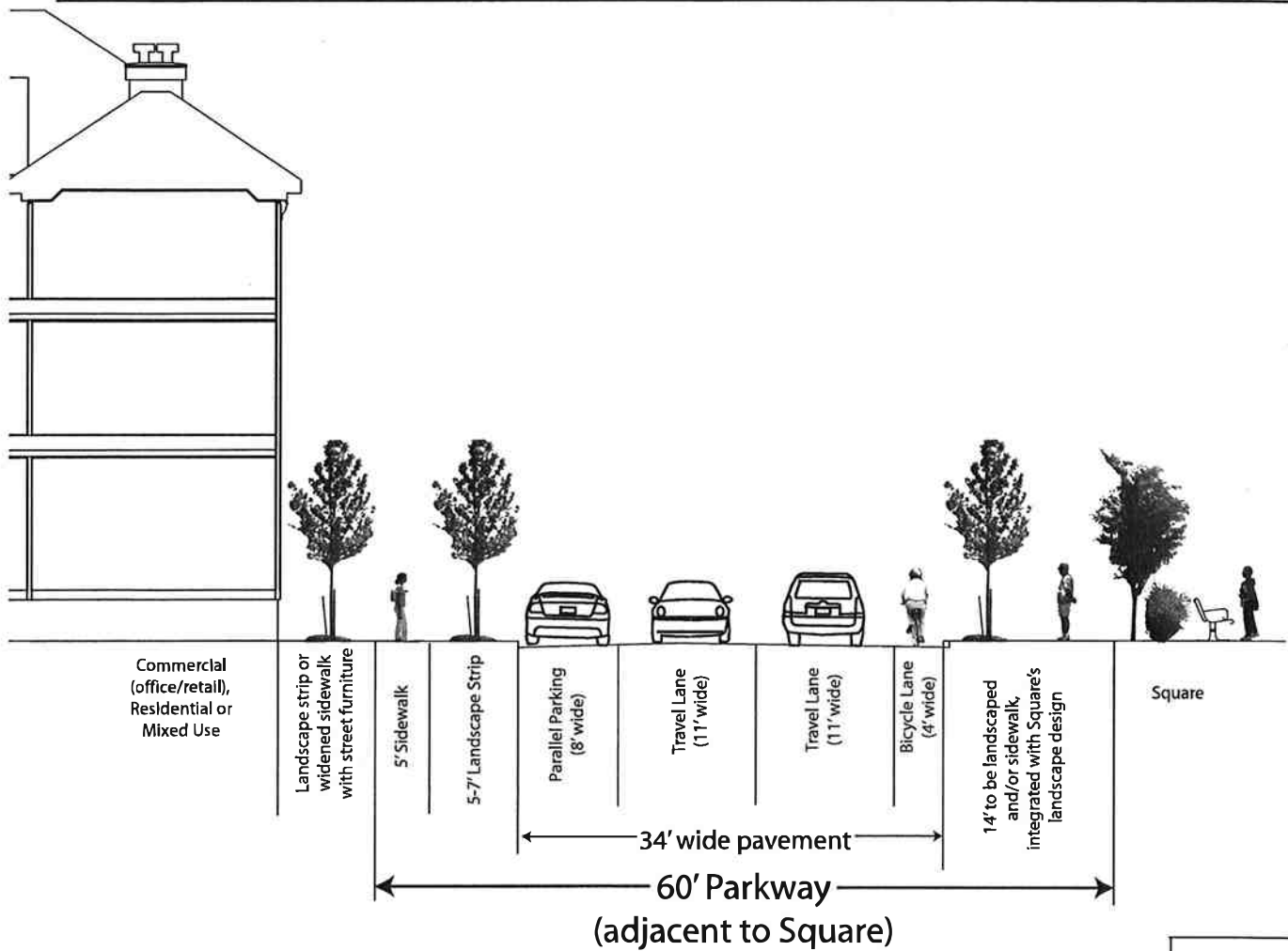


FIG. 2 CONTINUED

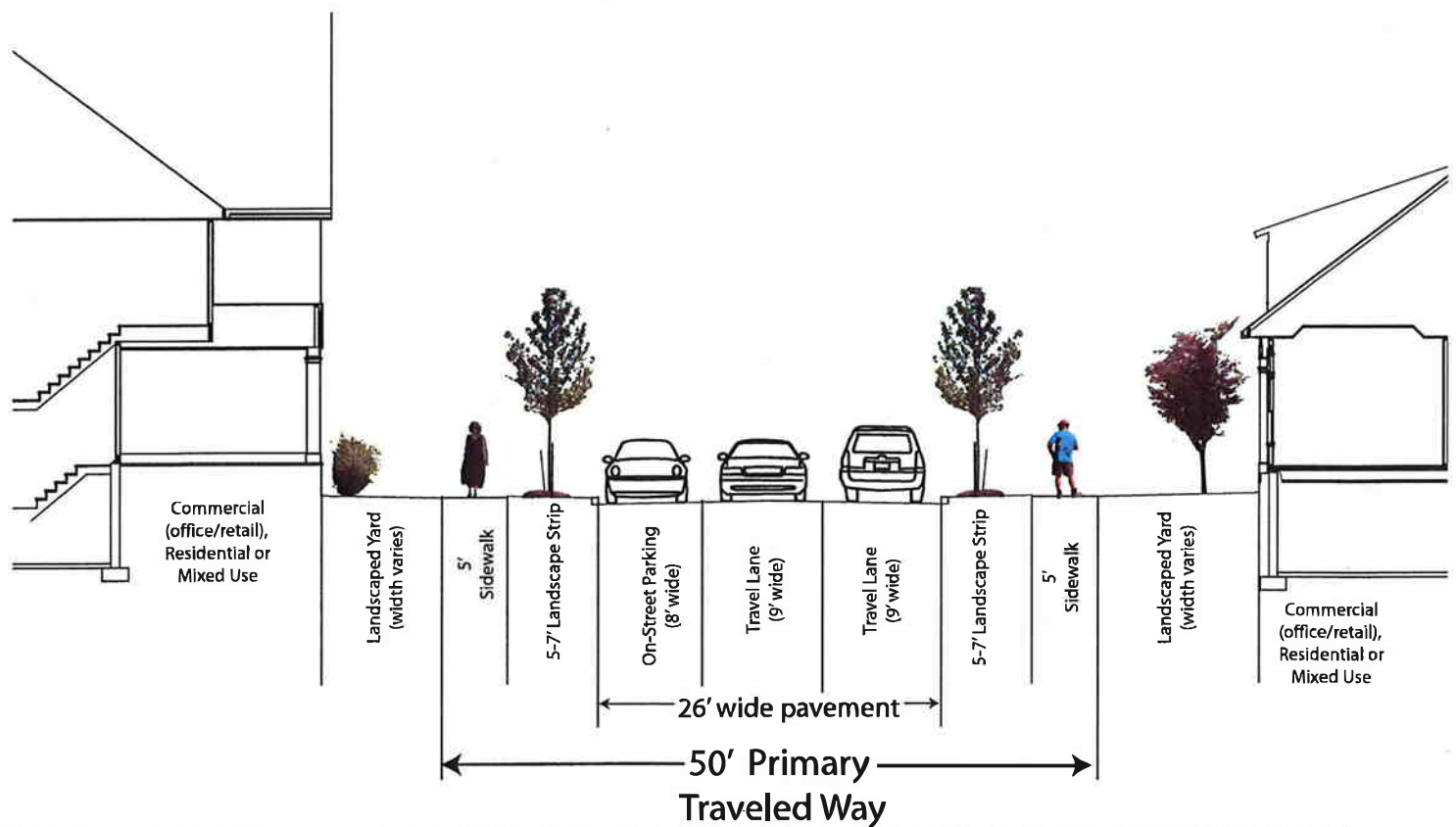
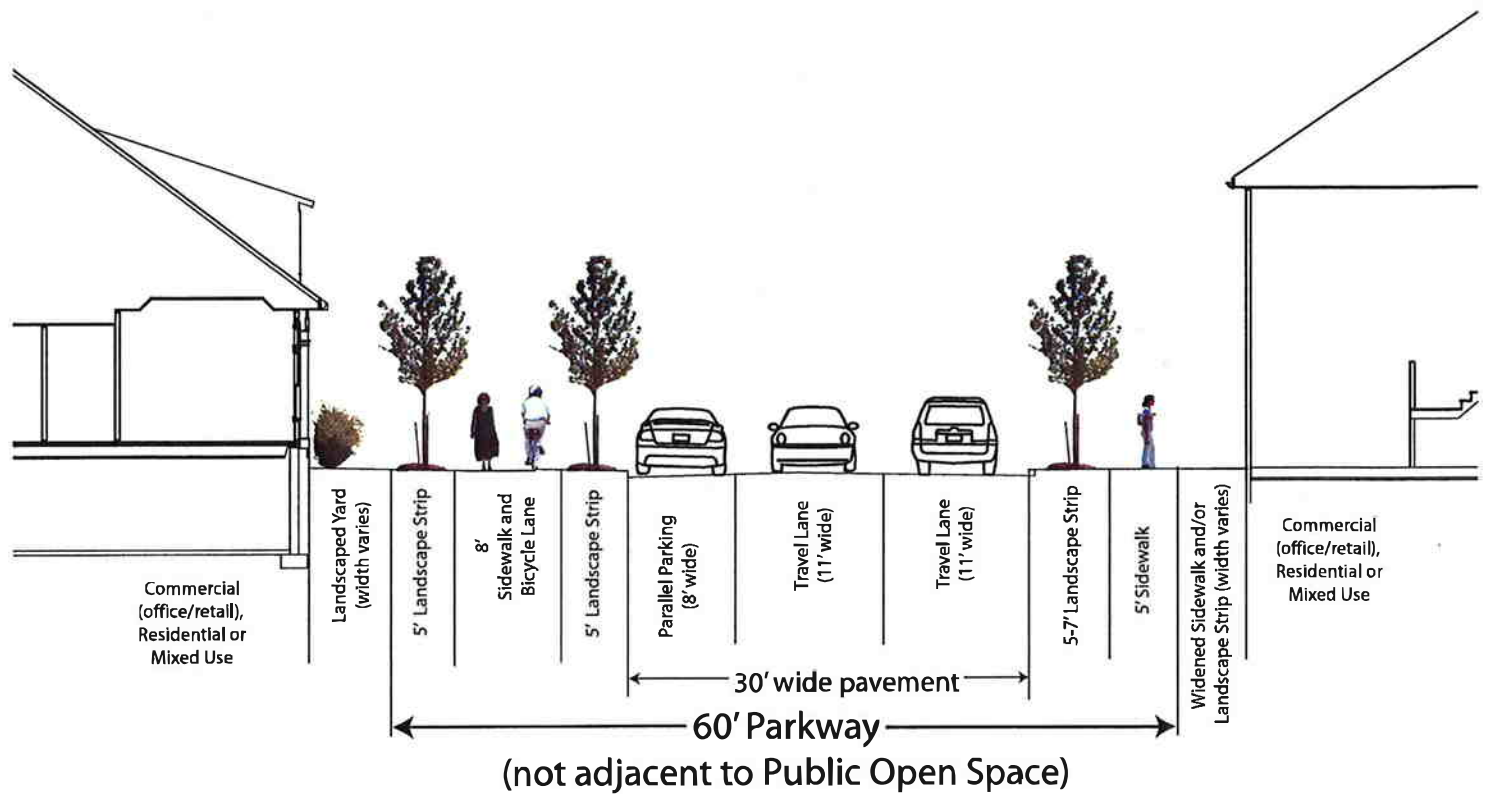
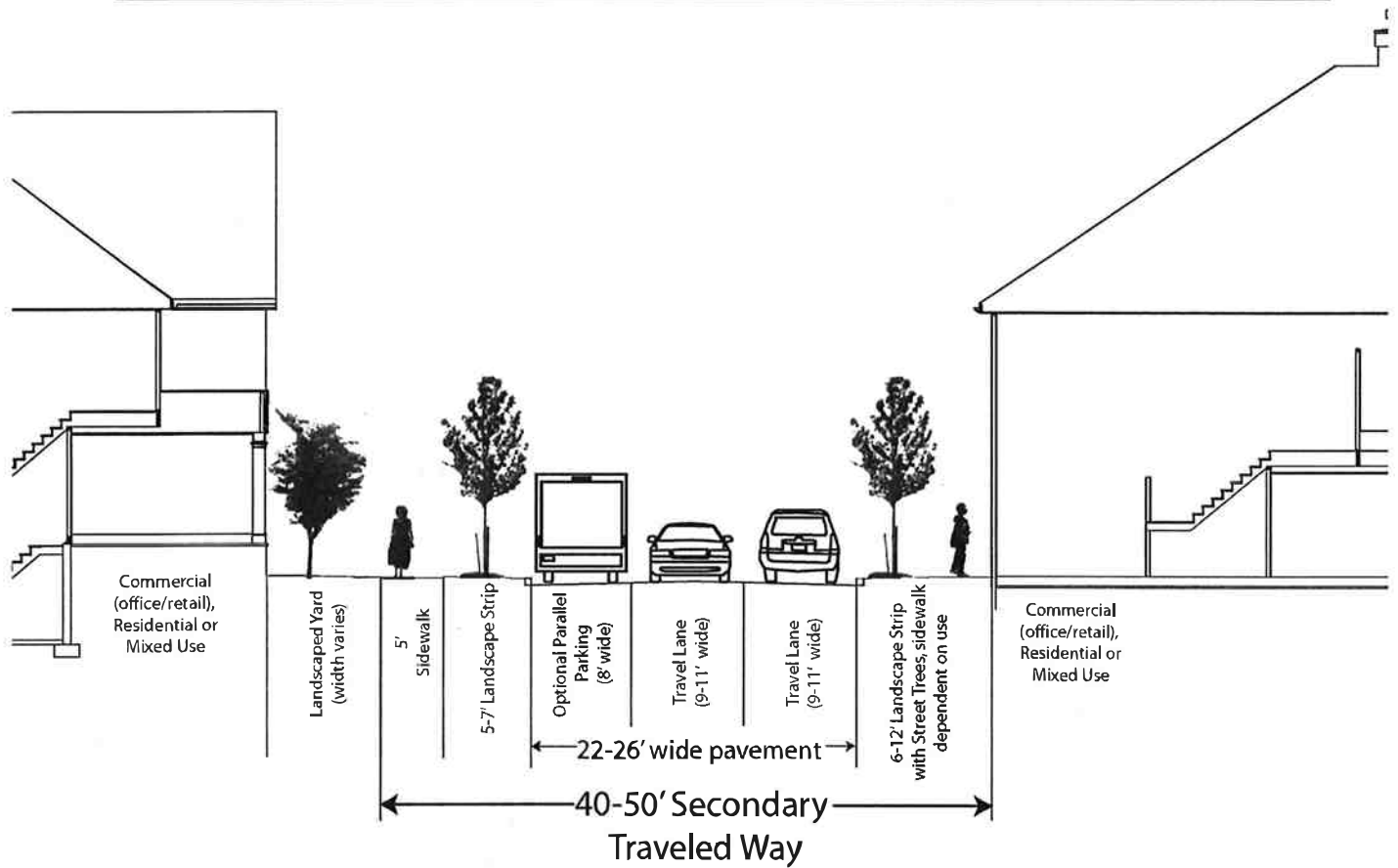
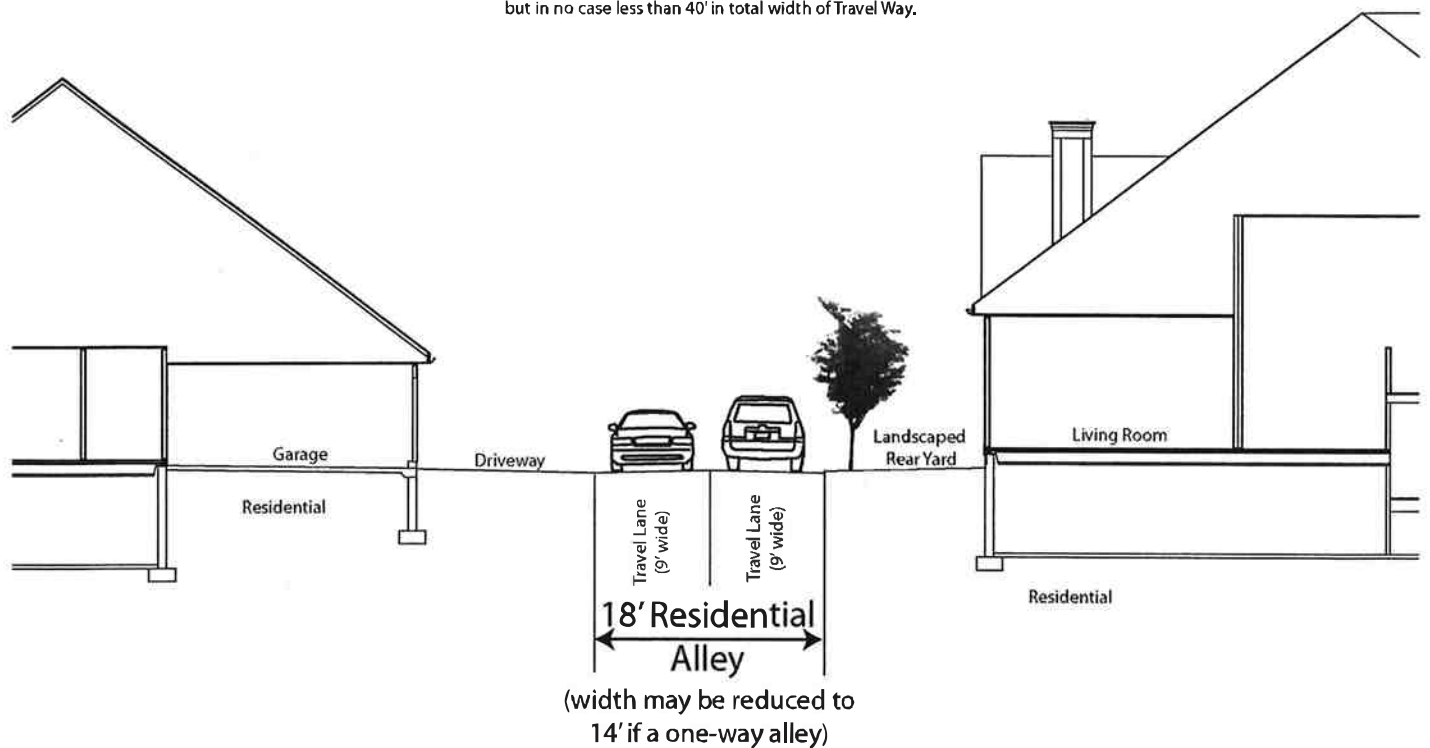


Figure 2 (continued)



* Some Secondary Residential Travel Ways may have sidewalk on one side only, street trees on both sides, but in no case less than 40' in total width of Travel Way.



6(C) Public Spaces.

- 6(C)(1) Purpose. Public Spaces are divided into three categories: Neighborhood Park Network, Development Project Parks, and Preserved Woodlands. Overall site design shall include a central water feature and surrounding park, referred to here as the Pond Park. Public Spaces should serve to both unify and distinguish sub-neighborhoods within the District. Each Development Project shall be required to demonstrate to the Planning Board how its plan reinforces the Public Open Space network of the District. The design of streets, sidewalks, and public spaces is critical to the overall character and vitality of the District. Specific details and design criteria for improvements are prescribed herein, to establish a common design thread and link the different land uses and architectural styles of the Development Projects. It should be noted that landscaping related to Traveled Ways is described in Section 6(B).

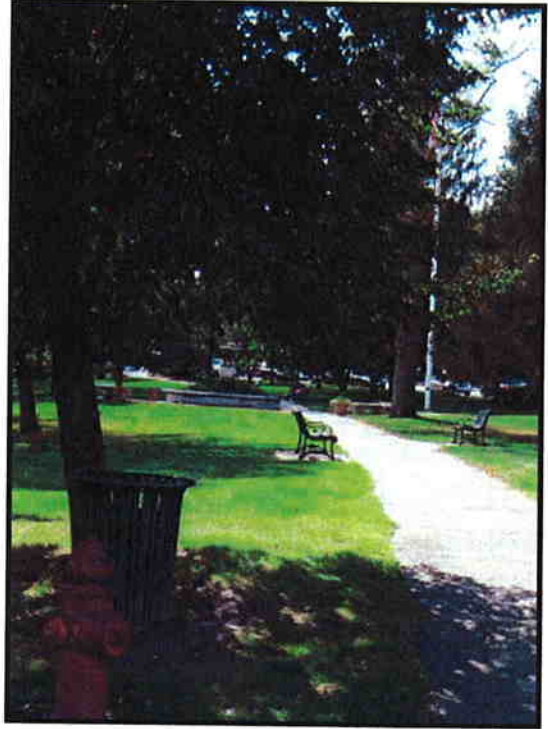


Public spaces such as this pond can be designed to support wildlife as well as human habitat.

- 6(C)(2) Future Open Space. Public Spaces within the District shall include no less than 19% and no more than 20% Future Open Space as defined by the 40R Smart Growth Statute and Regulations, and whose area is specified for each subdistrict on the Kingston Smart Growth Zoning Bylaw Map. The size, shape, and location of each individual Future Open Space may vary, as long as the overall area for each subdistrict is met. Additionally, these Future Open Spaces are subject to Design Standards described further in this section. A Development Project may, at the option of the Applicant, include Public Spaces in addition to those designated as Future Open Space, subject to the Design Standards described in Section 6(C)(7), Development Project Parks.
- 6(C)(3) Neighborhood Park Network. The following open spaces are intended to be part of an integrated system of open spaces and are generally defined in Section (3) Definition of Terms and herein, as the Square, the Pond Park, and other neighborhood parks. Taken as a whole these open spaces are intended to provide a continuous network of open spaces and serve as the organizing elements of the District. The design of each of these spaces should therefore consider the design

of the others and be both consistent and reinforcing of one another. The location and number of the Neighborhood Parks may vary, as long as the following minimum criteria are met:

- 6(C)(3)(a) No residential home shall be more than a quarter-mile from at least one Neighborhood Park.
- 6(C)(3)(b) Wherever practical, Neighborhood Parks should be placed such that buildings face onto them.
- 6(C)(3)(c) Each Neighborhood Park should have frontage on a Traveled Way along at least two sides, and at least 50% of a park's perimeter should front onto a Traveled Way.
- 6(C)(3)(d) Park paths should support local connections into parks from neighborhoods and surrounding commercial areas. Vistas from surrounding streets that terminate at a park are encouraged.
- 6(C)(3)(e) Specific design criteria for each of these Neighborhood Parks is described and illustrated conceptually in Sections 6(C)(4) - 6(C)(6).



Paths passing through parks should connect different neighborhoods to each other.

6(C)(4) Open Space - Square. The District shall include a Square, 8,000 - 10,000 square feet in size, located within the Mixed-Use Live Work subdistrict near the MBTA Commuter Rail Station.

6(C)(4)(a) Landscaping elements. The emphasis should be on grass areas with canopy trees, along with hard surfaces where moderate-sized groups may engage in recreational activities.

The Square should be designed so that the hard and soft surfaces flow into one another in such a way that, for special events,



Flexible spaces accommodate changing uses in public squares.

they can be used as a single space, or broken up into smaller areas for separate activities. A variety of seating options should be provided, with smaller scale shrubs and perennials used to reinforce these areas. Public art, both permanent and occasional, is encouraged to be placed within this open space.

6(C)(4)(b) Fencing. Fencing should define the space, but not act as a continuous barrier. To provide visual reinforcement of varying land uses without blocking people's free passage, fencing should be placed adjacent to such elements as street edges.

6(C)(4)(c) Allowed Accessory Buildings. Kiosks shall be permitted, but shall not occupy an area in excess of 150 square feet, including roofed areas. A kiosk may be either freestanding or attached on only one



Seating should be provided in a variety of settings.

side to a building wall. Open air cafes shall be permanently unenclosed, except that they may have a temporary fabric roof. No kitchen equipment shall be installed within an open air cafe. Kitchen equipment may be contained in a kiosk adjoining the open air cafe.

- 6(C)(4)(d) **Circulation and Access.** Circulation should be continuous from all points of interest and should allow free passage through the space on foot and bicycle. No motorized vehicles other than emergency vehicles are allowed to pass through the park. Walkways should be located logically to connect with adjacent sidewalks and crosswalks.



Entrances to parks should be aligned with crosswalks when feasible.

- 6(C)(5) **Open Space - Pond Park.** Overall site design shall include a central water feature and surrounding park, 7-10 acres in size, located within the Conservation/Recreation subdistrict, adjacent to the Parkway.

- 6(C)(5)(a) **Landscaping Elements.** The Pond Park should include both sunny open meadows where informal sports activities can occur, and shady areas next to the pond where people can relax quietly. Landscape features that are visible from the continuous walking and bike trails should be developed throughout the



This man-made pond doubles as a park, including walkways around and over the pond.

opposed throughout the parks, to encourage individuals to stop and enjoy the particular landscaping of the area. The landscape design should include a variety of deciduous and evergreen plantings which take into account the changing seasons and ensure that the park reflects New England seasons for color and texture throughout the year. The edge condition between the park and pond should vary as one travels around the outside of the park.

6(C)(5)(b) Fencing. Limited fencing may be provided in order to provide safety from passing cars where necessary and to help to define the space where landscaping by itself is not adequate.

6(C)(5)(c) Accessory Structures shall be allowed as necessary for the maintenance and operation of the park and/or utilities infrastructure, and to provide limited shelter from sun and inclement weather.

6(C)(5)(d) The overall design of the Pond Park should establish a hierarchy of paths that are a combination of both hard and soft surfaces depending on their location and anticipated level of use. A continuous pedestrian and bicycle trail should ring the park and a secondary system of trails should connect to this ring path and features within the park.



For high traffic areas, fencing on the outside of a curve provides visual cues for changing road alignment.



Landscaping furniture should include provisions such as waste receptacles.



Larger parks may require lighting integrated with the interior of the landscaping.

6(C)(6) Other Neighborhood Parks. The District shall include Neighborhood Parks (in addition to Square and Pond Park) approximately 2,000 square feet to one-half acre in size.

6(C)(6)(a) Landscaping Elements. High-canopy trees shall be planted throughout the parks.

Denser, lower shrub plantings shall be planted as a traffic calming measure. A variety of seating under shaded areas, with smaller scale shrubs and perennials shall be used to reinforce these areas. Materials and scale of plantings shall reinforce adjacent land uses, depending on the proposed



The smaller scale plantings reflect its intended use as a smaller neighborhood park.

location, configuration, proximity to major roadways, and proposed activities. For example, parks adjacent to multifamily homes may be designed for walking pets, community vegetable gardens, courts for lawn games, outdoor fitness stations, and/or barbecue areas. Parks adjacent to single-family homes may include open spaces for passive recreation and/or play equipment.

Open spaces that primarily serve commercial buildings may be designed for picnicking, open air cafes, or quiet sitting areas.

6(C)(6)(b) Fencing. Fencing shall provide a low barrier from adjacent high-traffic-volume streets. Fencing should define the space and buffer park areas from vehicular ways when necessary. Strong entry points should act as visual cues for access to Pocket Parks.



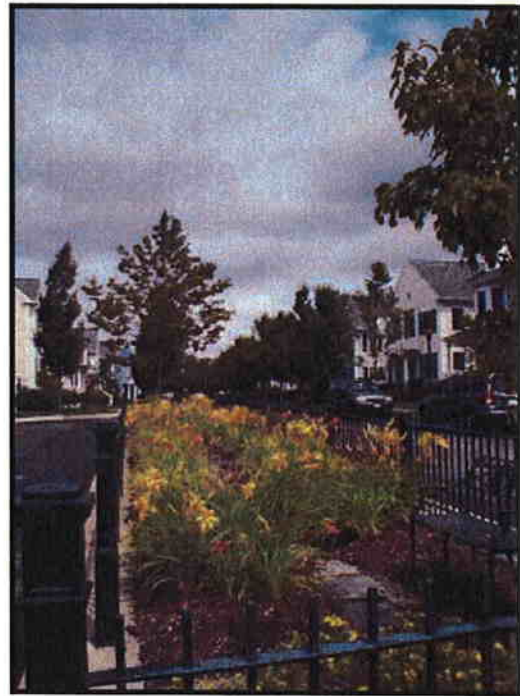
Breaks in fencing announce entry ways into Pocket Parks.

6(C)(6)(c) Accessory Buildings. Small, open-air structures such as picnic shelters or gazebos shall be allowed.

6(C)(6)(d) Circulation and Access. Circulation shall be provided with a continuous path through parks with surfaces that encourage slow movement, such as gravel. Access shall be continuous from all points of interest and allow free passage through the space on foot and bicycle.



Curved paths encourage slower pedestrian movement.



Attention to details are more important than the size of Neighborhood Parks.



Fencing materials define the formal character of this park.

- 6(C)(7) Development Project Parks. In addition to Future Open Space requirements, an Applicant may elect to provide other public open spaces known as Development Project Parks. These Parks are intended for the primary use of the residents within the Development Project but shall remain open and readily accessible to the general public. Development Project Parks should be situated in locations that serve as organizing features within the Development Project, enhance the living experience of the residents within the Development Projects and provide visual connections wherever possible through pathways or sidewalks to the Neighborhood Park Network.



A change of ground material emphasizes landscape focal points.

- 6(C)(7)(a) Development Project Parks should be centrally located to the neighborhood they are intended to serve, to the extent practical.
- 6(C)(7)(b) In addition to Development Project Parks, individual Development Projects may include amenities intended for the exclusive use of their residents, such as swimming pools and clubhouses, provided that the design is consistent with the general Design Standards for Public Spaces and Guiding Principles contained herein.
- 6(C)(8) Preserved Woodlands. Preserved Woodlands shall remain largely untouched except for selective pruning and clearing of dead wood, the installation of underground utilities, wildlife habitat, and/or the addition of pathways intended for foot and bicycle use. These pathways may be hard or soft surfaced depending on the anticipated use. Pathways should generally follow the contours of the land wherever practical and should be a part of and connect with the overall trail system that encompasses the District and adjacent publicly owned lands. At the discretion of the Sewer and Water Departments, leaching systems may be installed underground for the purposes of gray water recharge to groundwater. This may also include appurtenant maintenance structures and utilities required to service these leaching fields. To the extent necessary to

maintain the trails and leaching system, the pathways may be designed to permit occasional vehicular access solely for such purposes.

6(C)(8)(a) Subject to other applicable statutes, regulations, and permits, access easements and/or rights-of-way to on-site or adjacent woodlands from a street right-of-way shall be provided, if requested by the Planning Board, and shall be at least 15' wide.

6(C)(8)(b) Where the Applicant provides trails or where existing trails traverse preserved Woodlands within the District, subject to other applicable statutes, regulations and permits, an easement at least 15' wide shall be shown, which may be limited to passage on foot, horseback, and/or bicycles. Where the present location of the trails interferes with logical development of the land, adjustments shall be made to relocate the trail or to connect the trail to a street right-of-way, another trail or suitable open space.

6(D) Site Design. This section addresses Site Design Standards specific to Development Projects. Site Design Standards that affect Development Projects as well as other land uses within the District, such as Parking Lots, Public Open Spaces and Traveled Ways are contained elsewhere within these Design Standards. In preparing site plans for Development Projects, the Design Standards should be considered in their entirety.

6(D)(1) Consistency with Master Plans. All development permitted pursuant to the District Bylaw shall be consistent with the design objectives of the Kingston Master Plan, the Kingston Housing Plan and, to the extent applicable, any District Master Plan filed within the District and approved by the Planning Board.

6(D)(1)(a) Within the mixed use districts, a mix of uses should be provided, including residential, retail, restaurant, personal service, office, and open space. These uses should be in close proximity to one another within the neighborhood.

6(D)(1)(b) The District as a whole should provide a mix of housing styles, types, and sizes to accommodate households of all ages, sizes, and incomes.

6(D)(2) Adjacency to other land uses. Development Projects should be designed with consideration for the view of important features within the District and connections to adjacent public properties and reviewed for consistency with nearby Development Projects within the Smart Growth District, both built and planned. The Project should incorporate connections to existing and future developments. Creative designs that relate to, and integrate the variety of, surrounding construction and design are encouraged.

6(D)(3) Block lengths. Traveled Ways adjacent to building fronts and sides shall be scaled to neighborhood size and generally 150' to 400' in length. Single-

family residential blocks shall be no more than 600' in length unless site conditions provide a compelling reason for longer block lengths.

- 6(D)(4) Alley-loading. In order to minimize the visual impact of private parking garages, curb cuts, and vehicular turning movements on residential streets, Alleys should be provided to allow for vehicular access to most Single-family homes from the rear. Residential buildings except those that abut



Accessing garages from alleys makes the Traveled Ways safer and more pedestrian.

Preserved Woodlands or the boundaries of the District should be designed such that vehicular access and off-street parking is located behind buildings, and is accessible from secondary streets or alleys.

- 6(D)(5) Curb cuts. Curb cuts on Traveled Ways where buildings predominantly face the street shall be allowed for loading, driveways, and parking areas. Curb cuts shall also be allowed to access 20' maximum width driveways of front-loaded single-family residential homes. Non-residential curb cuts shall not make up more than 25% of the street block, and individually shall be no more than 30' in width measured at the point of tangency of the driveway entrance with the driveway curb radius.

- 6(D)(6) Building massing and orientation.

- 6(D)(6)(a) Build-to and setback lines. The District Bylaw contains minimum building setbacks from the edge of curb which shall apply to Development Projects in the District. In addition, at least 75% of the linear frontage of any building façade which is adjacent to a sidewalk shall be located within 20' of that sidewalk for single-family homes and 15' of the sidewalk for non-single family buildings. On corner lots, the build-to line shall apply only to the façade which contains the primary entrance to the relevant building. In cases where no sidewalk exists, single-family homes shall be within 35' of edge of paving and non- single family buildings shall

be within 30' of edge of paving. Where garages directly access a Traveled Way, a minimum of 18' shall be provided between the face of a garage and rear of a sidewalk or, where no sidewalk exists, to the edge of paving.

- 6(D)(6)(b) Relief from build-to line. Variations from the Build-to lines in Section 6 of these Design Standards (either greater or less than proscribed), may be permitted where, at the discretion of the Planning Board, such relief shall add visual interest to the streetscape and where the proposed setbacks are allowed in the District Bylaw.

- 6(D)(6)(c) Orientation of buildings to Traveled Ways. In all cases the primary elevation of a building should face Primary Traveled Ways, except that if a building has more than one primary elevation the developer may choose which elevation faces the Primary Traveled Way. For the purposes of this section a "primary elevation" is defined as an elevation that includes one or more of the following: entrances to the building or individual homes; windows facing directly into primary living spaces; or no more than two garage doors. In the case of multi-family, mixed use and commercial buildings located on a corner intersected by two Primary Traveled Ways, each elevation facing the street shall be a primary elevation.



Variation of building planes close to the sidewalk provide visual interest for pedestrians



Approved building envelopes provide flexibility for architectural variation in final construction design.

- 6(D)(6)(d) Siting of single-family homes within approved Building Envelopes. Both attached and detached single-family homes shall be sited within Building

Envelopes included as part of Development Project site plans approved by the Planning Board. In connection with the submission of a Site Plan, the Applicant may show building envelopes for Single-Family homes. When building envelopes are included on a Site Plan, the Applicant shall include footprints of prototypical single-family buildings sited within prototypical building envelopes, along with representative architectural elevations. These representative configurations and representative architectural elevations shall comply with the District Bylaw and Design Standards and, once approved by the Planning Board, shall permit the Applicant to request building permits for specific siting and building designs from the Kingston Building Inspector consistent with these pre-approved representative layouts.

- 6(D)(6)(e) **Orientation of Single-Family Dwelling Units.** For the purposes of describing the orientation of a Single-Family Dwelling Unit, every detached Single-Family Dwelling Unit has a Front Elevation, Courtyard Elevation, Rear Elevation, and Blank Wall Elevation. The Front Elevation is the elevation of the home that faces the Traveled Way, except that in a corner lot, the Applicant may choose which street is the Front Elevation. The Courtyard Elevation is the side of the home that abuts Usable Outdoor Space accessible from that home. The Rear Elevation is the elevation opposite the Front Elevation. The Blank Wall Elevation is the side opposite the Courtyard Elevation.

- 6(D)(6)(e)(i) The primary entrance to a home shall be through either the Front Elevation or the Courtyard Elevation. Every Single-Family Dwelling Unit's primary entrance should be covered. Front entryways from covered porches are strongly encouraged.



The Courtyard Elevation has many windows to make full use of this Outdoor Living Room.

- 6(D)(6)(e)(ii) **Single-family side and rear yards.** Every Single-Family Detached Dwelling Unit shall have a usable outdoor space on its lot (or exclusive use area), whose minimum area is 120 square feet of contiguous open space in which no dimension is less than 10 feet. This space may include hard surfaces such as patios and decks. The

outdoor space shall be adjacent to either the courtyard or rear yard elevation or a combination of the two.

6(D)(6)(e)(iii) The Blank Wall Elevation of a Single-Family Dwelling Unit may be coincident with one side yard lot line (or exclusive use area easement line), often referred to as "Zero-Lot Line" homes, provided that a reciprocal access easement is recorded for both lots, provided that all Dwelling Units have pedestrian access to the rear yard through means other than the principal structure, and that the minimum distance between any two dwellings is 12'.

6(D)(6)(e)(iv) Accessory buildings and detached garages. Accessory buildings and detached garages may be located on a side or rear property line, provided that no structure is closer than 10' to any other structure. However, detached garages may be connected to a Single-Family Detached Dwelling Unit by an overhead breezeway.

6(D)(7) Off-street parking.

6(D)(7)(a) The total number of required parking spaces is defined in the District Bylaw, and includes Dedicated Parking.

6(D)(7)(b) Outdoor parking for Single Family Dwelling Units. Driveways behind a home's garage shall be considered a separate parking space or spaces provided the driveway is at least 18' deep. If outdoor parking spaces are provided in combination with a garage on a lot other than as a tandem space behind the garage, the spaces should be adjacent and parallel to either the alley or the driveway for that home's garage.

6(D)(7)(c) The dimensions of parking spaces perpendicular to access ways shall be 9' x 18'. Twenty-five percent of the off-street parking spaces may be compact spaces, measuring 8.5' x 16'. Parallel parking spaces shall be 8' x 22'.

6(D)(7)(d) Parking lots shall include both the number and dimensions of handicapped parking spaces as required by law.

6(D)(7)(e) Unless within a structured parking garage:

6(D)(7)(e)(i) Parking lots with at least two parallel internal driveways shall have a minimum interior landscaped open space area of 10%. Small



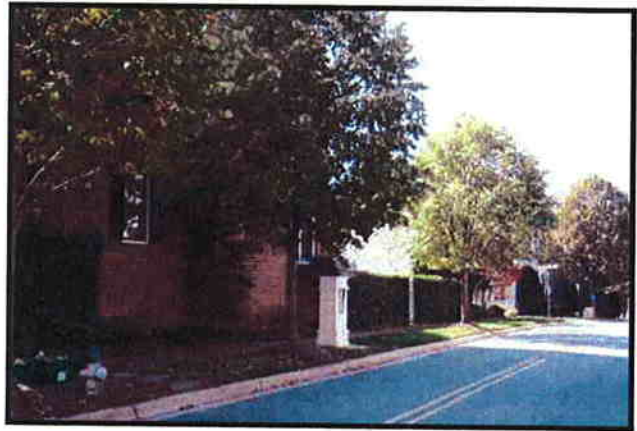
A "live fence" of landscaping provides an opaque screen between a parking lot and a public park.

islands of landscaping are discouraged. Instead, clustered open spaces are encouraged to be functional for pedestrian passage across and along the side of parking areas.

6(D)(7)(e)(ii) For Development Projects with frontage on the Parkway or adjacent to the Square, Parking Lots wider than 60' shall be located at the rear or side of buildings. For all other buildings, wherever practical, parking shall be provided to the side and rear.

6(D)(7)(e)(iii) Where Parking Lots wider than 60' are directly adjacent to Single-Family Dwelling Units, fencing, dense landscaping, walls, and/or a differential in topography shall be utilized to function as an opaque screen to mitigate the visual impact of parking lots.

6(D)(7)(e)(iv) Where Parking Lots wider than 60' are adjacent to Primary Traveled Ways, fencing, dense landscaping, and/or walls shall be designed to extend the plane of the predominant façade of adjacent buildings.



Landscape screening doubles as an extension of the adjacent building's facade.

6(D)(7)(f) Where structured parking is incorporated into residential structures, it shall be designed to complement the adjacent streetscape.

6(E) Building Design.

Building Design Standards are described in 6(E) below and Section 7, Building Forms.

6(E)(1) Roofs. Residential buildings shall have pitched roofs. Roof pitches for primary roofs of residential buildings shall have a pitch of at least 6:12. Mansard roofs are permitted for multi-family buildings. Portions of roofs may be flat on multi-family and single-family buildings to accommodate mechanical equipment and roof decks. Parapets and cornices shall be designed to screen rooftop equipment and delineate the building façade.

6(E)(1)(a) Roof materials. Permitted materials include: architectural asphalt shingles, weathered wood shingles, cedar shingles, copper, standing seam metal, slate, synthetic slate, and metal shingles. Other period materials may be permitted upon determination by the Planning Board that the material is appropriate to the architectural style, color, and relationship of buildings along the streetscape.

6(E)(1)(b) For blocks that contain a mix of uses along one block streetscape, buildings should be no more than 30% taller or 30% shorter than the average building height on the block.

6(E)(1)(c) Elements such as towers and piers may be used to break up the horizontal massing. The Planning Board may, at its discretion, permit the construction of architectural elements, such as towers, in excess of the maximum allowable building heights in the District Bylaw.



The tower at the corner of this multi-family building provides a focal point and asymmetry to the facade.

6(E)(1)(d) Upper stories may be set back or treated with a different material or incorporated into the roof line to diminish building mass consistent with the specific architectural style.

6(E)(1)(e) Four-story buildings should employ techniques to reduce the building's scale, such as including top floor living areas above the eave line, incorporating two-, three- and four-story elements within the same building, providing direct entry to ground level homes, and adding pedestrian scale elements.

6(E)(1)(f) Commercial buildings may have flat roofs, provided all mechanical equipment is screened from view from the Traveled Way or from the windows of adjacent residential units that are at the same level or below the elevation of the mechanical equipment.

6(E)(2) Windows and Doors.

6(E)(2)(a) Residential windows.

6(E)(2)(a)(i) Fenestration patterns may vary from building to building but should exhibit general consistency by proportions along a streetscape.

6(E)(2)(a)(ii) Vertical proportions for windows are preferred on the front, rear and courtyard elevations.

6(E)(2)(a)(iii) Windows in Blank Wall Elevations shall be designed to protect the privacy of a neighboring home whose primary outdoor space abuts the Blank Wall. The side of the home that is adjacent to a neighbor's private side yard shall not have windows at eye level on each floor. Within the Blank Wall Elevation no glass is permitted below a height of 5'6" measured from the interior floor adjacent to the window except in the following conditions:

6(E)(2)(a)(iv) Garages may have windows with glass less than 5'6" off the floor.



The small windows on the left home are set high (above eye level from inside the left home's second floor) so that the landscaped space between the two homes is for the private use of the home to the right.

6(E)(2)(a)(v) Buildings may have windows with glass less than 5'6" within 5' of the front elevation.

6(E)(2)(b) Residential entryways.

6(E)(2)(b)(i) Entrances to residential units that are not required to be handicap accessible or adaptable shall be vertically separated from the public sidewalk by at least 12", and by at least 24" where the front façade of the house or front porch is within 10' of the public sidewalk.

6(E)(2)(b)(ii) In multi-family buildings not serviced by an elevator, all homes whose first floor is located on the ground or second floor shall have individual entrances at the street accessed either through the front or side elevations. For second floor units, buildings should split the stair run to the second floor by placing risers outside the building leading from the sidewalk.

6(E)(2)(b)(iii) Side entries. Where residential buildings have their main entrances on the side of the building, the entrance to the building will be welcoming to passersby by designing adjacent landscaping and fencing to be low,



This door accesses a second-floor condominium home, and is slightly above the first-floor floorplate, breaking up the stairs to the second floor home.



This community building's side entrance connects two different building styles, and is recessed with glass doors to signal a public entrance.

transparent, and for public use rather than screened and for private use. Wrap-around porches, house numbering, and pathways from the public sidewalk should also be considered to clearly identify the sidewalk entry as open to the public .

6(E)(2)(b)(iv) Garage doors for all Single Family Dwelling Units should reflect traditional New England designs.

6(E)(2)(c) Windows and Entryways in Non-Residential and Mixed-Use Buildings.

6(E)(2)(c)(i) Retail Store Fronts on the first level shall have transparent storefront windows covering no less than 50% of the first floor wall area and shall provide views of the first floor space within. Window sills shall be no higher than three feet above the adjacent sidewalk.

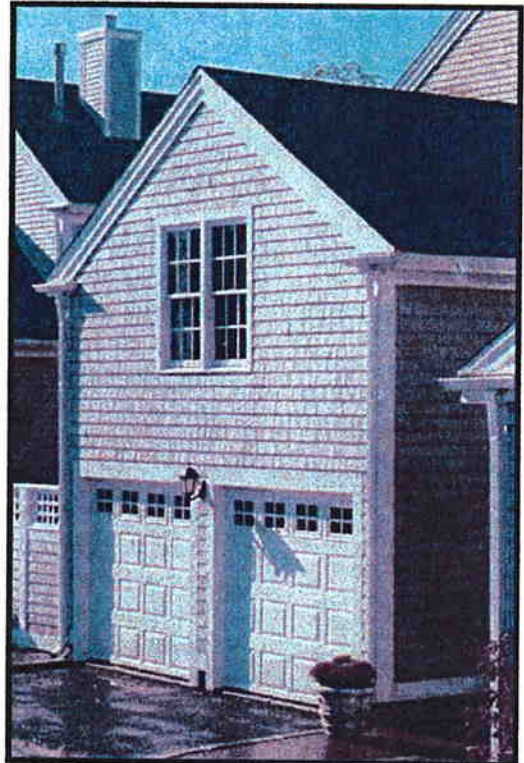
6(E)(2)(c)(ii) Windows shall be square or vertical. Two or more vertical windows may be grouped together to form a horizontal opening. Horizontal windows are permitted as transom windows, installed as a bank of individual lights across the top of the horizontal window below.

6(E)(2)(c)(iii) Primary pedestrian entryways shall be visible from the street and shall be directly accessible from the public sidewalk adjacent to such street.

6(E)(3) Building Facades facing Traveled Ways. For all building facades facing a Traveled Way, the following standards apply:

6(E)(3)(a) The architecture facing a public space or pedestrian corridor should exhibit a pedestrian scale. Architectural details, such as awnings, moldings, vertical piers, pilasters, bay windows, and recessed entries, should be used to help create this scale. These details should be continued on all sides of a building visible from a Traveled Way.

6(E)(3)(b) No uninterrupted length of any building's facade facing a street should exceed 40% of the façade's total length, or 50 horizontal feet, whichever is



Garage doors are chosen to enhance the adjacent New-England style trim.

less, without incorporating at least two of the following: color change, division or breaks in materials, separate entrances and entry treatments, plane projections of recesses, trellises, balconies, variations in roof lines, or window bays.

6(E)(3)(c) The following materials are not allowed on the facades or sides of buildings adjacent to Traveled Ways including the Parkway: concrete block or brick larger than 4" in height or 12" in length; aluminum or fiberglass siding or concrete masonry units.

6(E)(3)(d) Building facades shall vary in height or vary the planes of exterior walls in depth and direction to break up the box-like mass and scale of new buildings. However, buildings that derive their architectural style by establishing a consistent and repetitive rhythm through the use of windows and other related architectural elements are permitted.

6(E)(3)(e) Privacy. Residential and mixed-use building designs shall provide adequate privacy for residential units near the street through the use of (i) screening or planting, and (ii) orienting the structure toward Open Space or a pedestrian way.

6(E)(3)(f) Balconies, porches and stoops. Residential balconies and porches on the traveled ways are encouraged where practical. Porches parallel to streets shall be at least 5' in depth. Balconies may extend over half of the adjacent sidewalk for mixed-use buildings with residential on the upper floors. No balconies may cross a property line or extend over a public way. Stoop materials shall be either concrete, concrete with brick accent, brick pavers, stone, or slate.

6(E)(3)(g) Fences. Fences shall be used to provide continuity to a streetscape, privacy for homeowners and their guests from passers by, to help differentiate private space from public space and to add to the pedestrian scale of the streetscape.

6(E)(3)(g)(i) Fences should be designed with the specific use behind the fence in mind. Primary outdoor seating areas may require more privacy than rarely used side yard spaces. Board



Balconies overhanging front facades blur the boundary between private and public spaces and provide a place to interact with pedestrians.

caps and picket fences are encouraged to be used in combination to achieve the appropriate level of privacy.

- 6(E)(3)(g)(ii) Fences should be approximately 4' to 6' in height depending on the level of privacy required. Fences are required between Single-Family Detached Dwelling Units which are less than 20' apart measured along the front elevation of the homes.

- 6(E)(3)(g)(iii) Fencing material may be synthetic vinyl or PVC, cedar boards or shingles. Other materials may be permitted if it is found by the Planning Board that the design and appearance are superior and comply with the intent of these Design Standards.



Fencing along the street between Single-Family Detached Dwelling Units provides private yards on one side of each home that extend to the neighboring home.

- 6(E)(3)(g)(iv) Trellises are encouraged in combination with fences.

- 6(E)(3)(h) Accessory buildings and detached garages should use materials that are complimentary to the main structure. All accessory buildings shall have at least one window on the front elevation. All detached garages shall have at least one window on each side elevation.

6(E)(4) Colors and materials.

- 6(E)(4)(a) Materials. Traditional materials including brick, stone (including cast stone), stucco (including synthetic stucco), and horizontal siding (including clapboards and shingles) may be used as the primary building materials. Tile, stone, glass block, copper flashing, metal and wood should be considered for accent materials.



Synthetic material fencing between these two homes extends the New England trim details of the homes.

- 6(E)(4)(b) Siding. Siding materials shall primarily be clapboard, shingle, or stucco style with trim work built out to include water tables and cornerboards. Synthetic products, such as cementitious horizontal siding and vinyl siding are permitted, provided they are applied in combination with proportional architectural elements. Examples of such architectural elements include cornerboards, watertables, soffits, and eaves. Brick may be used for specialty buildings or features. In the case of residential buildings, no more than 15% of the homes in a block may be brick. For buildings longer than 100', brick shall not make up more than 50% of a streetscape façade.



This single-family home has a living room whose large windows are oriented towards the adjacent private patio and yard.

- 6(E)(4)(c) Shutters. Shutters may only be used on (i) attached and detached residential buildings, and (ii) the residential portion of mixed-use buildings. Shutters shall be proportional to the window on which they are used.
- 6(E)(4)(d) Façade. In mixed-use buildings, façades and buildings shall be designed to distinguish the buildings and building sections as being either residential or commercial, as the case may be. Front façade materials and detailing shall be carried over to any side elevations that face Traveled Ways.
- 6(E)(4)(e) Awnings. Awnings cannot extend across multiple storefronts and/or multiple buildings. Awnings shall be constructed of durable, protective, and water repellant material. However, plastic or fiberglass awnings are prohibited on all buildings. Backlighting or illuminating awnings is not allowed. Awnings shall project a minimum of 36" away from the building.
- 6(E)(5) Building Style and Detailing.
- 6(E)(5)(a) Style. Residential buildings should employ architectural details typical of New England architecture in the 19th and early 20th century. Such features include front doors with sidelights, covered front porches, corner boards, water tables, frieze board below the roofline, bay windows, and

pediments. Graphics in Section (7) - Building Forms of these Design Standards depict some of these elements applied in a modern setting.

- 6(E)(5)(b) Retail-only buildings. Franchise architecture (i.e., building design that is trademarked or identified with a particular chain or corporation and is generic in nature) is not allowed. Franchises or national chains shall follow these standards to create a unique building that is compatible with the District.

6(F) Neighborhood Gateways.

6(F)(1) Marion Drive Gateway.

- 6(F)(1)(a) Design concept. The Parkway shall provide primary vehicular access to the site at its intersection with Marion Drive. Site design, landscaping and architectural character at this gateway location will be chosen to define a positive first impression for people accessing or passing by the site by automobile. Design Standards in this Section 6(F)(1) shall be applicable to Development Projects located within 300 linear feet of the intersection of the Parkway with Marion Drive measured along Marion Drive, and within 100 linear feet of Marion Drive.
- 6(F)(1)(b) Setback and Build-to-Lines. Build-to-Lines in the Marion Drive gateway shall be chosen to frame the Parkway in an attractive visual manner. Specifically, buildings shall be set back no fewer than 20 linear feet from Marion Drive, measured from the edge of the curb or pavement edge. For buildings that sit at an angle and that are not parallel to Marion Drive, setbacks shall be measured at the two corners of the Primary Elevation facing Marion Drive, and the distances shall be averaged to determine building setback.
- 6(F)(1)(c) Building scale. Buildings located within the Marion Drive gateway shall not be taller than 3 stories.
- 6(F)(1)(d) Building materials. Buildings located within the Marion Drive gateway shall be constructed with pitched roofs, independent of proposed use. Window fenestration patterns may vary from building to building, but generally vertical proportions for windows are preferred. Continuous horizontal bands of window glass exceeding 6' in length are prohibited.
- 6(F)(1)(e) Landscaping. Sidewalks shall include seating areas and shall connect the Gateway area to the Square, the MBTA Commuter Rail Station and continuing up the Parkway.

6(F)(2) Kingston Station Gateway.

- 6(F)(2)(a) Design concept. A continuous, non-interrupted pedestrian walking path shall be provided to connect the MBTA Commuter Rail Station to the District in order to serve people traveling by commuter rail who will access the site on foot. The access route may be placed at Marion Drive or closer to the MBTA Commuter Rail Station depending on the location deemed to be safest and most convenient. Pedestrian-scale design elements shall be integrated into this pedestrian access corridor in order to provide an accessible and attractive non-vehicular gateway to the site.
- 6(F)(2)(b) Sidewalks. The walking path, described in Section 6(F)(2)(a) above, shall be at least 8' in width, and may provide an adjacent bicycle path of an additional 4' in width. The path shall have a hard surface, and may be constructed of either bituminous asphalt or poured concrete. Grading of the walking path shall comply with access standards of the Americans with Disabilities Act (ADA). Bollards may be used to ensure no motorized vehicular use of the walking path.
- 6(F)(2)(c) Landscaping. A combination of hardscape and landscaping shall be installed to add visual interest to the walking path. Stone walls, split rail fences or other fencing of natural material shall be installed on the interior radius of all significant curves in the walking path. Meandering design in sections of the walking path that proceed in a generally linear direction shall not be required to include such walls or fencing.
- 6(F)(2)(d) Seating areas. Periodic seating areas may be integrated into the walking path along its route, provided that the installation of benches does not infringe upon the minimum required width of the walking path, and provided further that said seating areas include trash receptacles.
- 6(F)(2)(e) Lighting. Lighting should be designed to serve the walking path and may include a combination of different lighting fixtures may be used to light the walking path. The may include, for example, lighted bollards and lantern fixtures. All light fixtures shall be placed at a maximum height of 12' above the adjacent walking path.
- 6(F)(2)(f) Way-finding signs at pedestrian scale are encouraged. A visitor kiosk with a District map shall be required (i) in the Square and (ii) near pedestrian access from MBTA Station.

7. Building Forms

The Kingston Smart Growth District Design Standards include a set of form-based sheets to assist the Applicant in applying the Design Standards to specific building forms. The forms included in this Section are:

- Single-Family Attached
- Single-Family Detached
- Two and Three-Family
- Multi-Family (Two- & Three-Story)
- Multi-Family (Four-Story)
- Office (Village Scale)
- Office Park
- Mixed-Use
- Retail

The sheets that follow summarize the dimensional requirements for each of these types of building forms, in addition to any applicable requirements described in the District Bylaw and Design Standards, in particular Sections 6E and 6F. They also provide visual examples of the architectural style and character, building materials, setbacks, parking requirements, landscaping, and other elements required by these Design Standards. They are intended as visual aids to assist the Applicant in designing a building or Development Project that is consistent with the intended character of the Kingston Smart Growth District.

Kingston Smart Growth District Design Standards

Single-Family Attached

An attached residential dwelling unit, designed for occupancy by one family only and on a separate lot where the use of the lot is within the exclusive control of the owner thereof, subject to customary homeowner association controls on architectural design, landscaping and maintenance.



- varying roof lines
- multiple vertically-proportioned windows
- trim details wrap around to side elevation
- clapboard-style siding with varying paint colors
- building to back of sidewalk measure
- porches on end units



The distances between building facades and sidewalks vary along the streetscape. Building facades that are primarily within 20' of the back of the sidewalk reinforce the edge of the pedestrian walkway.

Windows on end units, facade articulation, and plantings provide visual interest and enhance the streetscape.



The distance from the garage to the curb for garages that are accessed by a Traveled Way, rather than by an alley, shall be 18 - 20'.



The architectural design of Attached Single-Family homes shall focus on visually breaking down the mass of the buildings, using elements such as varied cladding colors, articulated facades and multiple windows that are proportionate to the buildings.

Dimensional Requirements: Single-Family Attached

Maximum Density	8 units per acre		
Front Setback	N/A*	Frontage	N/A*
Side Setback	12 ft. minimum / 0 ft. setback may be permitted from one sideyard lot line*	Parking	1.5 per dwelling unit
Rear Setback	20 feet minimum*	Uses	Residential
Building Height	35 feet*	Subdistricts	SF, MURC, MULW**

*For Single-Family Attached Dwelling Units, each must be located within a Building Envelope and shall satisfy the criteria governing Attached Dwelling Units set forth in the District By-Law. **Refers to Single-Family, Mixed-Use Residential, Commercial and Mixed-Use Live/Work

governing Single-Family
Mixed-Use Live/Work

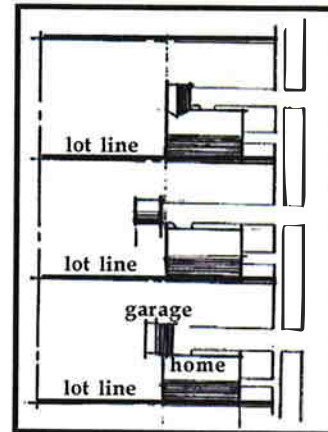
Kingston's Place Smart Growth District Design Standards

Single-Family Detached

A detached residential dwelling unit, other than a mobile home, designed for occupancy by one family only.



- pitched roofs, varying roof lines
- architectural shingles
- windows trimmed to meet frieze board when close
- varying paint colors
- clapboard-style siding
- front porches



Single-Family homes may be coincident with one side yard lot line. Accessory buildings and detached garages may be located on a side or rear lot line provided that no structure is closer than 10' to another.



- pedimented dormers
- slight eave overhang; front details continue around to the sides
- front or side-gabled low-pitched roof with perpendicular gabled wings
- cornice lines emphasized with wide, divided band of undecorated trim
- corner boards
- entry porch less than full height, supported by square or round, prominent Doric columns



Traditional architectural styles in Kingston include Colonial and Greek Revival. Front porches with columns, pitched roofs, shuttered windows, clapboard exteriors, and facade articulation characterize these styles and contribute to a coherent streetscape design.

Dimensional Requirements: Single-Family Detached

Maximum Density	8 units per acre		
Front Setback	N/A*	Frontage	N/A*
Side Setback	12 ft. minimum/0 ft. setback may be permitted from one sideyard lot line*	Parking	1.5 per dwelling unit
Rear Setback	20 feet minimum*	Uses	Residential
Building Height	35 feet maximum*	Sub-Districts	SF, MURC, MULW**

*For Single-Family Detached Dwelling Units, each must be located within a Building Envelope and shall satisfy the criteria governing Single-Family Detached Dwelling Units set forth in the District By-Law. **Refers to Single-Family, Mixed-Use Residential Commercial and Mixed-Use Live Work.

Kingston Smart Growth District Design Standards

Two- and Three-Family

A residential building containing two or three dwelling units and where the individual dwellings are not located on separate lots.



dormers and
varying roof lines

multiple vertically-
proportioned
windows

clapboard-style
siding

bay windows on end
break up facade, add
cohesiveness

covered porch with
columns



Dormers and columns add visual interest while covered porches ensure a sense of privacy for each living unit.

An articulated facade breaks up this larger building while a front porch and multiple windows make it less imposing and more accessible from the street.



Small front setbacks help these townhouses relate well to the streetscape.



Buildings incorporating a varied architectural vocabulary can be situated near each other to create a sense that the neighborhood was developed over time.

Dimensional Requirements: Two- to Three-Family

Main Density	12 units per acre		
Front Setback	N/A*	Frontage	N/A*
Side Setback	12 feet minimum/0' setback may be permitted from one sideyard lot line*	Parking	1.5 per dwelling unit
Rear Setback	20 feet minimum*	Uses	Residential
Billing Height	35 feet*	Setbacks	SF (as limited in the District By-Law), MURC, MULW **

*For Two- and Three Family Dwelling Units, each must satisfy the criteria governing Two- and Three-Family Dwelling Units set forth in the District By-Law. ** Refers to Single-Family, Mixed-Use Residential, Commercial and Mixed-Use Live/Work

**Kingston Smart Growth District
Design Standards**

Multi-Family (Two- & Three-Story)

A residential building containing four or more dwelling units designed for occupancy by the same number of families as the number of dwelling units.

- pedimented dormers, chimneys and lofts break through at the roofline
- building facade angles inward, following the edge of the park and the streetscape
- pedimented roof overhang for individual front entries breaks up building mass
- balconies add visual interest, outdoor space



Multi-family town homes can be clustered to conserve open space. Individual entries and landscaping elements ensure privacy for each unit. Setbacks and blank walls are utilized in order to maximize private spaces for the individual units.



Bay windows and changes of facade color break up the monotony of the streetscape.



Bays break up the building plane along the street, add a place to change color.



A porch and many small windows break up a large building.



A varied pitched roofline and columned porch add character.

Dimensional Requirements: Multi-Family (Two- and Three-Story)

Maximum Density	20 units per acre		
Front Setback	10 feet*	Frontage	50 feet*
Side Setback	20 feet*	Parking	1.5 per dwelling unit
Rear Setback	15 feet minimum*	Uses	Residential
Building Height	50 feet maximum*	Sub-Districts	SF (as limited in the District By-Law), MURC, MULW **

*Multi-Family Dwelling Units must satisfy the criteria governing Multi-Family Dwelling Units set forth in the District By-Law. ** Refers to Single-Family, Mixed-Use Residential Commercial and Mixed-Use Live Work.

**Kingston Smart Growth District
Design Standards**

Multi-Family (Four-Story)

A residential building containing four or more dwelling units designed for occupancy by the same number of families as the number of dwelling units.



- varying roof lines, tiered heights
- dormers add a residential character to the roof
- brick details, a variety of materials used in facade
- clock adds focal point to the square
- variety of colors in paving materials
- plantings define footpaths



Variety of building materials and a facade punctuated with windows and balconies add visual interest to this reuse.



Natural wood cladding lends this four-story residential building a less imposing feel. Details such as balconies, multiple proportioned windows and an articulated facade help to break up the mass.



A varied roofline and facade scale down the appearance of this high-density residential building. The ground-level story would be appropriate for retail or office uses as well.

Dimensional Requirements: Multi-Family (Four-Story)			
Maximum Density	20 units per acre		
Front Setback	10 feet*	Frontage	50 feet*
Side Setback	20 feet*	Parking	1.5 per dwelling unit
Rear Setback	15 feet minimum*	Uses	Residential
Building Height	50 feet maximum*	Subdistricts	SF (as limited in the District By-Law), MURC, MULW **

*Multi-Family Dwelling Units must satisfy the criteria governing Multi-Family Dwelling Units set forth in the District By-Law. ** Refers to Single-Family, Mixed-Use Residential Commercial and Mixed-Use Light Work

Kingston Smart Growth District Design Standards

Office (Village Scale)

A place in which functions such as directing, consulting, record keeping, brokerage, clerical work, and sales, without the presence of merchandise, of a firm are carried on. A place which provides medical or dental services shall also be included in this definition.



- pitched roof
- multiple, vertically-proportioned windows
- pedestrian-scale signage
- varied cladding
- colored shutters
- landscaped parking on the side of the building



A pitched roof, multiple small windows, a covered entryway, a chimney and generous landscaping make this commercial building welcoming to the pedestrian.



The use (or reuse) of a residential style building for a small office enables the office use to fit easily into the context and scale of the village. Parking is behind the building.



Office buildings fit into the context of the village and are harmonious in scale, materials and character with their neighbors. In addition to on-street parking, small parking lots are provided on the sides of these buildings.

Dimensional Requirements: Office (Village-Scale)

Minimum Lot Area	Office is allowed in the MURC and MULW subdistricts, both of which have a 10,000 sf minimum lot area.		
Front Setback	10 feet	Frontage	50 feet
Side Setback	20 feet	Parking	1 space per 333 square feet of gross floor area; 4 spaces per Dr.'s office
Rear Setback	15 feet	Uses	Office
Building Height	50 feet	Sub-Districts	MURC, MULW *

* Refers to Mixed-Use Residential Commercial and Mixed-Use Live Work

Kingston Smart Growth District Design Standards

Office Park

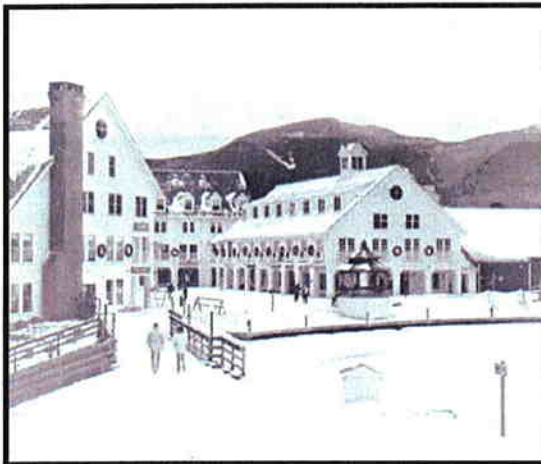
A place in which functions such as directing, consulting, record keeping, brokerage, clerical work, and sales, without the presence of merchandise, of a firm are carried on. A place which provides medical or dental services shall also be included in this definition.

varied roof lines
create visual interest

awning separates first
and second stories

street-level amenities
cater to the pedestrian

cars may be allowed
access, but pedestrians
have priority



An office building does not have to look like an office building, but rather can incorporate elements of regional architectural interest in its design.



The office park can incorporate residential architectural elements in order to break down the buildings' scale.

Dimensional Requirements: Office Park

Minimum Lot Area	Office is allowed in the MURC and MULW districts, both of which have a 10,000 sf minimum lot area.		
Front Setback	10 feet	Frontage	50 feet
Side Setback	20 feet	Parking	1 space per 333 square feet of gross floor area; 4 spaces per Dr.'s office
Rear Setback	15 feet	Uses	Office
Building Height	50 feet	Districts	MURC, MULW *

* Refers to Mixed-Use Residential Commercial and Mixed-Use Live Work

Kingston Smart Growth District Design Standards

Mixed Use

A Mixed-Use Development Project is one containing a residential Principal Use and one or more commercial or institutional Principal Uses.



- wooden signage appropriately scaled for the street
- pedestrian-friendly benches and plantings
- street-level storefront windows, facade details
- textured paving materials



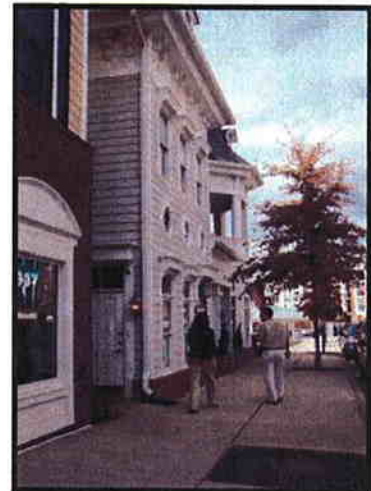
The non-uniform roof line adds visual variety to this mixed-use district, with store-front retail on the ground floor and room for commercial or residential uses on the second and third levels above.



Ground floor retail creates a pedestrian-oriented environment at the street, separated visually by awnings from attractive commercial uses on the building's second and third stories.



Small, pedestrian-scale signage.



Detailed windows and awnings at the street level are repeated above.

Dimensional Requirements: Mixed-Use

Minimum Lot Area	Office is allowed in the MURC and MULW subdistricts, both of which have a 10,000 sf minimum lot area.		
Front Setback	10 feet	Frontage	50 feet
Side Setback	20 feet	Parking	
Rear Setback	15 feet	Uses	Residential, Retail, Office
Building Height	50 feet	Sub-Districts	MURC, MULW *

** Refers to Mixed-Use Residential Commercial and Mixed-Use Live Work.

Kingston Smart Growth District Design Standards

Retail



pediment and
windowed arch
define entryway

cupola highlights
the "town center"

small wooden sign

sculptural facade
details, awnings
add sense of depth

windows break up
the building facade

pedestrian-friendly
streetscape details
such as lamp, clock,
brick paving accents

parallel parking
lends a "down-
town" sensibility.



This retail concept incorporates a traditional town square design with brick buildings, a prominent central cupola, awnings, windows, a cornice line.



Pedestrian-scale signage, facades punctuated with windows and doorways, awnings, and street furniture create a pedestrian-friendly atmosphere in a neighborhood retail corner.



Small wooden sign conveys information without overwhelming or looking out of place.



Larger retail building retains a residential architectural vocabulary: clapboard exterior, varied pitched roofs, multiple windows, chimneys. Wooden signs are horizontal and proportionate. Parking is in the rear.

Dimensional Requirements: Retail

Maximum Size	25,000 gross square feet (GSF)/single use; total retail not to exceed 50,000 GSF		
Front Setback	10 feet	Frontage	50 feet
Side Setback	20 feet	Parking	1 space per 250 sf of gross leasable floor area
Rear Setback	15 feet	Uses	Retail
Building Height	50 feet	Sub-Districts	MURC, MULW *

* Refers to Mixed-Use Residential Commercial and Mixed-Use Live Work.

8. Signage

8(A) Commercial/Retail Signage.

Signs should be architecturally compatible with the style, composition, materials, colors and details of the building and with other signs on nearby buildings, while providing for adequate identification of the business. These Standards also apply to signage in a residential complex. Alternative signs not meeting these standards may be allowed if it is found by the Planning Board that the design and appearance are superior and comply with the intent of these Design Standards.



The signage of this retail building is compatible with its architecture without dominating the facade.

- 8(A)(1) **Lighting.** Building and signage lighting shall be indirect, with the light source(s) hidden from direct pedestrian and motorist view. For exterior sign illumination, shaded gooseneck lamps are encouraged, as in this image. Signage should have the capability of being lit in the evening, although the source of light shall not be visible to motorists or pedestrians.



Indirect lighting protects the pedestrian and passing motorists from direct glare.

- 8(A)(2) **Historic signs.** Symbolic and historic three-dimensional signs, such as barber shop poles, and appropriately-sized projecting signs are encouraged.



These wood signs are compatible with the building's architecture.

- 8(A)(3) **Materials.** Signs constructed of natural materials, such as metal or wood are preferred. Permanently painted window signage is encouraged if compatible with the architecture of the building. Painted window signs may not consume more than one-third of the glazed area of the window.



Signs projecting over the sidewalk in retail areas are a way of providing pedestrian-scale details to the streetscape.

- 8(A)(4) **Neon signs.** Neon signs are permitted in display windows, if not covering more than one-third of the window surface



Signage on awnings is preferable to dominating window signage.

8. Signage, cont'd.

area, as measured around the perimeter of the neon portion of the sign.

- 8(A)(5) **Prohibited and restricted signs.** Internally illuminated signs (not including neon) are prohibited. Temporary window signage is limited to one-third of the window surface area. The combination of neon signage, permanently painted signage and temporary signage should not exceed a total of two-thirds of the window surface area.



This sales center sign is well-proportioned to a pedestrian scale within the residential neighborhood.

- 8(A)(6) **Projecting signs.** Projecting signs shall be no greater than twelve square feet and have a maximum width of three feet. Such signs may not extend beyond the first floor of the building. No less than ten feet of clearance shall be provided between the sidewalk elevation and the lowest point of the projecting sign. The maximum distance between a sign and building face is one foot. Signs shall not block or obliterate design details, windows or cornices of the buildings on which they are placed.



This free-standing wood carved sign with granite posts uses natural materials.

8(B) Sales Center Signage.

Signs used for directional purposes or to advertise any Sales Centers within the District shall conform to the conditions in 8(A), applicable to Commercial and Retail Signage.

8(C) Park, Trail and Bikeway Signage.

Signs used to mark or indicate directions to parks and bicycle or other trails should be sized so that they can be read by passing cars when adjacent to roadways, or pedestrians/cyclists when adjacent to pedestrian/bikeways. Use of natural materials such as wood is preferred.

9. Construction Design Standards

9(A) General Construction Design Standards.

- 9(A)(1) In laying out all Traveled Ways, Alleys, parking lots, sidewalks, bikeways and all associated utilities within a Development Project, including Traveled Ways which are part of a subdivision plan, the applicant shall follow the construction standards and roadway cross sections described in Section 6 and 9 of this Design Standards and Procedures Manual.
- 9(A)(2) In its review of Development Projects within the Smart Growth District, in addition to the standards described in these Design Standards, the Planning Board shall rely on the engineering principles and guidelines contained in the "2006 Massachusetts Highway Department Project Development & Design Guide", January 2006 edition (2006 MHD Guidebook).
- 9(A)(3) It is the stated purpose of this 2006 MHD Guidebook to "provide designers and decision-makers with a framework for incorporating context sensitive design and multi-modal elements into transportation improvement projects. The emphasis is to ensure that investments in transportation infrastructure encourage projects that are sensitive to the local context while meeting the important needs of the people they serve." (Introduction to 2006 MHD Guidebook, Section 1.1.)
- 9(A)(4) Reference to Standard Specifications such as "Specification 760" refer to the document, "The Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges", 1988 edition, as amended. To the extent that a Standard Specification is also described in these Design Standards, the Design Standards shall govern.
- 9(A)(5) To the extent that a specific standard is described in the 2006 MHD Guidebook and these Design Standards, the Design Standards shall govern.

9(B) Traveled Ways.

- 9(B)(1) Location and Alignment.
 - 9(B)(1)(a) Provision satisfactory to the Board shall be made for the proper projection of Traveled Ways or for access to adjoining property which is not yet subdivided.
 - 9(B)(1)(b) Reserve strips prohibiting access to Traveled Ways or adjoining property shall not be permitted, except where, in the opinion of the Board, such strips shall be in the public interest.
 - 9(B)(1)(c) Traveled Ways shall be continuous, of uniform width, and alignment with existing Traveled Ways, as far as practicable.
 - 9(B)(1)(d) Primary Traveled Ways with a landscaped median are permitted. Median breaks on such divided roads shall occur at least every 650 feet. While the right of way width shall be continuous, Traveled Way widths may narrow at the end of a landscaped median. Divided road widths shall not narrow where they intersect Traveled Ways outside of the Smart Growth District.

9(B)(1)(e) Traveled Ways shall be designed so that existing ways and cart paths in use or available for use for access to adjoining property are included within the Traveled Way.

9(B)(1)(f) Provisions shall be made for the proper projection of Traveled Ways, if adjoining property is not subdivided.

9(B)(1)(g) All curved Traveled Ways shall be designed consistent with the horizontal stopping sight distance criteria in Section 4.2.2 of the 2006 MHD Guidebook to permit safe vehicular travel.

9(B)(2) Traveled Way Width and Traveled Way Design Standards.

9(B)(2)(a) Refer to Section 6(B) for standards related to the width of Traveled Ways and pavement widths. Provisions for narrower pavement widths may be made by the Planning Board for developments employing accepted "traffic calming measures." For curbed Traveled Ways, pavement width shall be measured from within the inside edge of the curb or berm.

9(B)(2)(b) The pavement centerline radius and sight distance required for Traveled Ways is dependent on design speed, per the 2006 MHD Guidebook as described below:

Design Speed	Minimum Radius* (ft)	Sight Distance
15	50	80
20	100	115
25	185	155
30	300	200
35	455	250
40	670	305
45	900	360
*Radii shown are measured at the centerline of the inside traveled lane.		

9(B)(2)(c) The maximum allowable gradient for the Parkway shall be 8%, for a Primary Traveled Way 9%, for a Secondary Traveled Way 10%, and for an Alley 10%. The minimum gradient shall be 1% for all Traveled Ways.

9(B)(3) Traveled Way Jogs.

9(B)(3)(a) Traveled Ways entering opposite sides of another Traveled Way shall be laid out either directly opposite each other or with a minimum offset of one hundred and fifty (150) feet between their centerlines.

9(B)(3)(b) Provisions for Traveled Way jogs offset less than 150 feet may be made by the Planning Board for developments employing accepted "traffic calming measures" where sidewalks and multi use paths are incorporated into the development as a part of a town wide bicycle and pedestrian path system.

9(B)(4) Intersection.

9. Construction Standards, cont'd.

- 9(B)(4)(a) Traveled Ways shall be laid out so as to intersect as nearly as possible at right angles. No Traveled Ways shall intersect any other Traveled Way at less than sixty (60) degrees. Provisions for more acute intersections may be made by the Planning Board for developments employing accepted "traffic calming measures." The vertical curvature of the road shall not exceed grade of three (3) percent for a minimum distance of one hundred (100) feet from the intersection unless otherwise approved by the Planning Board.
- 9(B)(4)(b) When the intersection of two (2) Traveled Ways varies more than ten (10) degrees from a right angle, the radius of the curve at the obtuse angle may be less, and at the acute angle may be greater, than the radius otherwise required in Section 6(B)(2)(f) to the extent approved or required by the Planning Board.
- 9(B)(4)(c) Sight distances at intersections shall be according to the 2006 MHD Guidebook, described in Chapter 3.
- 9(B)(5) Dead-end Traveled Ways.
 - 9(B)(5)(a) For the purposes of this section, any proposed Traveled Way which intersects solely with a dead-end Traveled Way shall be deemed to be an extension of the dead-end Traveled Way if longer than 120 feet or is the primary access to more than one Dwelling Unit. Dead-end Traveled Ways and their extensions, if any, shall not be longer than six hundred and fifty (650) feet. Dead-end Traveled Ways shall be measured from the Traveled Way line of the intersecting Traveled Way.
 - 9(B)(5)(b) Dead-end Traveled Ways shall be provided at the closed end with a parking lot or a turn-around having an outside roadway diameter of a least one hundred and ten (110) feet with a property line diameter of at least one hundred and twenty (120) feet unless otherwise specified by the Planning Board. The Planning Board may, at its option, require a minimum outside roadway diameter of one hundred forty (140) feet, a property line diameter of one hundred sixty (160) feet. If the dead-end Traveled Way is intended to connect with another Traveled Way at some future point in time, where a future Traveled Way is projected beyond the circle, the circle shall be designed in relation to such extension. The turn-around or stub shall be located at the property line of the subdivision, unless the Planning Board approves otherwise. Provisions for smaller cul-de-sacs and hammerhead solutions may be made for developments employing accepted "traffic calming measures."
 - 9(B)(5)(c) The Board may require a roadway easement from the end of the dead-end Traveled Way to adjacent property. If a dead-end Traveled Way is subsequently extended beyond the required turn-around or hammerhead, any easement appurtenant to a lot not abutting the turn-around, except that portion of the turn-around included in said extension shall terminate upon the approval and recording of a certificate by the Planning Board of the construction of said extension, at which time additional land used for the circle may be relinquished to the adjacent property.

9(C) Driveways and Curb Cuts.

- 9(C)(1) Driveways for residential uses connecting garages or outdoor parking spaces for no more than two vehicles connected directly to Traveled Ways shall be at least ten (10) feet wide and have a curb return at the Traveled Way of two (2) feet in radius, and shall have an opening of at least fourteen (14) feet at the gutter line.
- 9(C)(2) Driveways for all other residential uses and for non-residential uses shall be at least sixteen (16) feet wide and have a curb return at the roadway of two (2) feet in radius, and shall have an opening of at least twenty (20) feet at the gutter line.
- 9(C)(3) For Traveled Ways where rolled curbs or no curbs exist, the driveway flare should have a three (3) foot radius. Driveway cuts shall not be within twenty-five (25) feet of the point of intersection with an adjacent Traveled Way corner radius.
- 9(C)(4) Driveways shall be constructed such that the sidewalk maintains a uniform grade parallel to the Traveled Way and at an elevation equal to the height of the curb plus a 2% cross slope through the width of the sidewalk. The maximum grade from the back of sidewalk to the Right-of-Way shall be 8%.

9(D) Easements.

- 9(D)(1) Wherever possible, easements shall be centered along side or rear lot lines. All easements shall be marked with concrete bounds.
- 9(D)(2) Where primary utilities serving other lots within a subdivision cross lots or are centered on rear or side lot lines, easements shall be provided of a width of at least twenty (20) feet.
- 9(D)(3) Where a Development Project is traversed by a water course, drainage way, channel or stream, the Planning Board may require a storm water easement or drainage right-of-way of adequate width and proper side slope to conform substantially to the lines of such water course, drainage way, channel or stream and to provide for construction or other necessary purposes. In no case shall the width be less than twenty (20) feet or the side slope be steeper than two (2) horizontal to one (1) vertical. The boundaries shall not be closer than five (5) feet horizontally from the annual high water line. Parallel Traveled Ways or pedestrian ways and/or appropriate access may be required in connection therewith. Streams and watercourses shall remain open except at Traveled Way crossings.
- 9(D)(4) Access easements to park and conservation land shall be provided, if required by the Planning Board, and shall be at least fifteen (15) feet wide.
- 9(D)(5) Wherever possible easements along rear lot lines shall be continuous to the Traveled Way at the end of the block to connect with the adjoining blocks in the shortest direct line.
- 9(D)(6) Where the applicant/developer provides trails or where trails traverse the land shown on the plan, an easement at least fifteen (15) feet wide shall be shown, which may be limited to passage on foot or horseback. Where the present location of the trails interferes with logical development of the land, adjustments shall be made to relocate the trail or to connect the trail to a Traveled Way another trail or suitable open space.

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- 9(D)(7) Upon definitive plan approval, all easements shown on the plan shall become part of the approved plan. The Planning Board agent will record all easements and proof of the recording will be required before final approval and endorsement of subdivision plan.
- 9(D)(8) Where a retention or detention ponds are shown on a Site Plan, if it is part of a subdivision plan, it shall be governed by an easement available to the Town for the purposes of maintenance and also by an easement available to the Town for access for such maintenance.
- 9(E) **Lot Drainage.** Lots shall be prepared and graded in such a manner that development of one shall not cause detrimental drainage on another, if provision is necessary to carry drainage to or across a lot, an easement or drainage right-of-way of adequate width and proper side slope shall be provided.
- 9(F) **Fire Hydrants.**
- 9(F)(1) Fire Hydrants shall be provided every five hundred (500) running feet on one side of each Traveled Way unless an alternate distance is approved in writing by the Fire Department. Fire hydrants shall be placed so that the Fire Department hose connections are at least sixteen (16) inches above the finished grade.
- 9(F)(2) All fire hydrants shall be painted "fire hydrant red" and all caps and the top section shall be painted yellow.
- 9(F)(3) For identification purposes, either a metal post, painted yellow twelve (12) inches from the top the remainder red, shall be placed vertically in a concrete base to achieve a height of sixty (60) inches above said finished grade, or, a yellow metal flag approximately six (6) inches square affixed to a red metal shaft and affixed to a hydrant hose connection so that the top of the flag is sixty (60) inches above said finished grade, shall be installed.
- 9(G) **Sidewalks, Trees, and Furniture along Traveled Ways.**
- 9(G)(1) Sidewalks, landscape strips, and trees shall be shown in accordance with the Cross Sections listed in Section 6(B).
- 9(G)(2) Sidewalks shall be provided on Traveled Ways as specified in Section 6(B).
- 9(G)(2)(a) Sidewalks shall be a minimum of five feet in width and may be either concrete, unit pavers, or some combination of the two. In situations in which the character of the location is less formal asphalt sidewalks may be used.
- 9(G)(2)(b) Sidewalks shall have ramp access at intersections, at a minimum width of 3' wide.
- 9(G)(2)(c) Each driveway that crosses a sidewalk shall be provided with a minimum 10' wide apron from the edge of the road pavement to the edge of the Right of Way.
- 9(G)(2)(d) Provision of sidewalks may be waived by the Board if multi use paths are incorporated into the development as a part of a town wide bicycle and pedestrian path system.
- 9(G)(3) Trees.
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- 9(G)(3)(a) Species of street trees will be chosen taking into account adjacent street species and land uses.
 - 9(G)(3)(b) Species of street trees shall be selected that are tolerant to the New England climate and considered by a licensed landscape architect to be appropriate for use as a street tree.
 - 9(G)(3)(c) Every effort should be made to plant trees in their appropriate season. In all cases underground irrigation shall be provided to all street trees. Where poorly draining soils are present underdrains shall be installed.
 - 9(G)(4) Furniture.
 - 9(G)(4)(a) Street furniture including benches should be located at periodic intervals, spaced with the pedestrian in mind to provide comfortable seating areas. The location of street furniture need not be regular, and may be varied in different portions of the site based on expected pedestrian usage (resulting from density, primary pedestrian routes to destinations such as the MBTA Station and the Square).
 - 9(G)(4)(b) Roads serving Mixed-Use Development Projects shall include amenities such as decorative lamp posts, sidewalk furniture, flower boxes and planters, decorative paving designs and/or banners typical of a community retail center. Amenities adjacent to non-residential uses will allow for a 1.5' clear zone adjacent to parallel parking spaces and a 5' through walking area along the sidewalk.
 - 9(G)(4)(c) Roads with only residential buildings located or planned along the frontage may include amenities such as decorative lamp posts, sidewalk furniture, and flower boxes and planters outside of the 5' wide throughway sidewalk.

9(H) Utilities.

- 9(H)(1) Where adjacent property is not subdivided or where all the property of the Applicant is not being subdivided at the same time, provision shall be made for the extension of the utility system by continuing the mains the full length of Traveled Ways and to the exterior limits of the Development Project, at such grade and size as will, in the opinion of the Planning Board, permit their proper extension at the later date.
- 9(H)(2) Sewerage.
 - 9(H)(2)(a) Each Development Project shall, where a public sewerage system is located within two thousand (2000) feet of the subdivision, be connected to the public sewerage system unless otherwise approved by the Sewer Commission, Planning Board and Board of Health.
 - 9(H)(2)(b) If a public sewerage system is planned to be installed within two thousand (2000) feet of any Development Project within three (3) years of the date of submission of the Definitive Plan as indicated by prior Town Meeting action, the sewer system shall be installed by the developer in the Traveled Way and to every lot which can be connected later to the public sewerage system.
 - 9(H)(2)(c) Manholes shall be located at every change in grade or horizontal alignment but not more than three hundred (300) feet apart.

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- 9(H)(2)(d) Sewerage pipes and related equipment such as grinder pumps, pumping stations shall be installed within the subdivision as necessary to provide all lots on each Traveled Way with adequate sewerage as approved by the Sewer Department.
 - 9(H)(2)(e) Small wastewater treatment facilities and sewage pumping stations shall be in accordance with Kingston's Regulations for small Wastewater Treatment Facilities regulations of the Sewer Department.
 - 9(H)(3) Water.
 - 9(H)(3)(a) All lots approved by the Planning Board through the Definitive Subdivision Plan process and all Development Projects shall conform to the requirements of the Water Department Rules and Regulations.
 - 9(H)(3)(b) Water, where water systems are required, pipes and related equipment such as hydrants and main shutoff valves, shall be installed within the subdivision and Development Projects as necessary to provide all lots and buildings on each Traveled Way with adequate water supply for domestic use as approved by the Water Department and for fire protection use, as approved by the Fire Department.
 - 9(H)(3)(c) All house connections shall be installed in accordance with the requirements of the Water Department.
 - 9(H)(3)(d) If the Planning Board and Board of Health approves a private well or private water system, the requirements of the Board of Health shall govern the design of the well or system.
 - 9(H)(3)(e) All proposed water systems/main extensions shall be looped whenever the Kingston Water Commissioners indicate that this is feasible and desirable.
 - 9(H)(4) Storm Drainage along Traveled Ways.
 - 9(H)(4)(a) A complete system of drainage for Traveled Ways shall be constructed in a manner satisfactory to the Planning Board and in conformance with The 2006 MHD Guidebook. Drainage shall be designed to:
 - 9(H)(4)(a)(i) Permit unimpeded flow of all natural water courses.
 - 9(H)(4)(a)(ii) Insure adequate drainage of all low points along Traveled Ways.
 - 9(H)(4)(a)(iii) Intercept excessive ground water in the subsoil along the Traveled Ways.
 - 9(H)(4)(a)(iv) Intercept storm water runoff along Traveled Ways at intervals reasonably related to the extent and grade of the area drained.
 - 9(H)(4)(b) Proper connections shall be made with the existing public drainage system so long as such a connection does not overburden said drainage system.
 - 9(H)(4)(c) Adequate disposal of surface and sub-surface water shall be provided and pipes, manholes and catch basins shall be provided according to the sizes and depths as indicated on the plans and in conformity with the requirements of the 2006 MHD Guidebook and as specified herein.
 - 9(H)(4)(d) The standard depth of catch basins shall be three (3)-feet below the invert of lowest drain. Manholes shall be constructed to the required depth at

each junction point and as shown on the plan. Pipe culvert and pipe drains shall be in conformity with the 2006 MHD Guidebook.

9(H)(4)(e) Reinforced concrete pipe (used on all cross drains under pavements) shall be installed according to the size as shown on the plans. No backfilling of pipes shall be done until the installation has been inspected by the Planning Board Agent. All drainage trenches except cross drains shall be filled with clean gravel borrow in accordance with Specification 760. All cross drain trenches shall be backfilled with selected material satisfactory to the Planning Board Agent.

9(H)(4)(f) Catch Basins and Manholes Specifications.

9(H)(4)(f)(i) Cement brick masonry or concrete block masonry, machine-made solid segments not less than eight (8) inches in width and precast concrete structures.

9(H)(4)(f)(ii) Manhole frames - twenty-six (26) inches in diameter, and cover (marked "D" for drains and "E" for electric - two hundred (200) pounds minimum weight.

9(H)(4)(f)(iii) Square catch basin frames - twenty-four (24) inches square; and grates - two hundred (200) pounds minimum weight. For these catch basins, flanges shall have three flanges only at curb inlets.

9(H)(4)(f)(iv) Construction Specifications. Catch basins and manholes shall not be less than four (4) feet in inside diameter at a point two and one-half (2-1/2) feet below the bottom of the frame. Catch basins shall not be less than three (3) feet in depth measuring from the invert of the outlet pipe. Brick masonry inverts shall be constructed for all manholes.

9(H)(4)(f)(v) Installation of Castings. Castings shall be set at the pavement binder course grade. Frame castings for catch basins and man-holes shall be set in full mortar beds. All casting to be adjusted to finish grade prior to the application of the wearing surface. All adjustments to be with sewer brick.

9(H)(4)(g) Where sub-drains are required they shall be constructed in conformance with the 2006 MHD Guidebook.

9(H)(4)(h) In no instance shall catch basins be located at driveway entrances.

9(H)(4)(i) Cross culverts and their appurtenances shall be designed to accommodate a storm of fifty (50) year frequency.

9(H)(5) Street Lighting.

9(H)(5)(a) Street Light Posts shall generally be spaced at a distance of 75 ' along Traveled Ways. Posts may be staggered on either side of the Traveled Way and are not required to be 75' apart on both sides of the road. Street lights are also required for alleys but may be spaced up to 100 feet apart.

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- 9(H)(5)(b) The light center of the fixture shall be mounted 12-15 feet above the adjacent Traveled Way, and within 5 feet of the adjacent pavement.
- 9(H)(5)(c) The character of the alley lights should be less formal than the primary street fixtures. Light post styles should reinforce architectural features of adjacent Development Projects and may include historical or modern design features as appropriate to reinforce the development theme.
- 9(H)(5)(d) Glare and light trespass control from outdoor light fixtures shall be required to protect inhabitants from the consequences of stray light shining in residents' eyes or onto neighboring properties. Light pollution control shall be required to minimize the negative effect of misdirected upward light.
- 9(H)(5)(e) Lighting for streets, pedestrian ways, and attached to buildings shall not include uplighting except for buildings designated for such lighting as part of the Master Plan and approved as such by the Planning Board. Direct light shall not be emitted above the light fixture. Also, equipment shall be selected such that they could be fitted with shields if a problem for light trespass to residences is found after installation.
- 9(H)(5)(f) Placement of street light posts shall take into account adjacent windows in residential properties, and care shall be taken to ensure that glare from street lights does not interfere with residents' enjoyment of residential properties.
- 9(H)(5)(g) Landscape up-lighting is allowed to highlight landscaping elements, but shall not trespass onto adjacent properties and shall not be directly emitted above the object which it is directed.
- 9(H)(5)(h) Outdoor lighting for commercial, mixed-use, or community buildings and special event lighting shall be turned off automatically within two hours of closing.
- 9(H)(5)(i) Lighting for outdoor parking lots wider than 60', shall be full-cutoff lights, meaning that direct light shall not emit directly by a lamp, off a reflector or through a refractor above a horizontal plane through the fixture's lowest light-emitting part. For parking lots wider than 60', mercury vapor and quartz lamps are prohibited; also, metal halide lamps shall be shielded and filtered; filtering using quartz glass does not meet this requirement.
- 9(H)(5)(j) Prohibited light sources throughout the District include laser source lights and searchlights.
- 9(H)(5)(k) Exemptions from all requirements of this Section 9H)(5)(a-j):
- 9(H)(5)(k)(i) fossil fuel light (light fixtures producing light directly by the combustion of fossil fuels);
 - 9(H)(5)(k)(ii) seasonal or holiday decorative lights that are temporary in nature, and are used for less than two months in a given calendar year;
 - 9(H)(5)(k)(iii) light fixtures using an incandescent lamp of 150 watts or less;
 - 9(H)(5)(k)(iv) any lamp of 50 total watts or less;
 - 9(H)(5)(k)(v) safety and emergency lights, including areas such as the archway to the commuter rail entrance; and

- 9(H)(5)(k)(vi) lights triggered by movement and emergency lighting required by code are exempt.
- 9(H)(5)(k)(vii) Specialty lights. Alternative outdoor light fixtures not meeting these prevention of light pollution standards may be allowed if it is found by the Planning Board that the fixture's design and appearance are superior, significant light pollution will not be created, and glare is minimal.

9(I) Bikeways, Walkways and Trails outside of Traveled Ways.

- 9(I)(1) Bikeways, walkways, and trails shall conform to the standards set forth in Sections 6(B), 6(C) and described below:
- 9(I)(2) Maximum gradient for bikeways, walkways, and trails located outside of a Traveled Way:

Maximum Grade Lengths	
Grade %	Maximum Length (ft)
5 to 6	800
7	400
8	300
9	200
10	100
11+	50

- 9(I)(3) Minimum center line radius for bikeways, walkways, and trails located outside of a Traveled Way shall be twenty five (25) feet unless otherwise specified or approved by the Planning Board.

9(J) Common Driveways.

- 9(J)(1) Common driveways are permitted, and shall meet the following standards:
- 9(J)(1)(a) Minimum Width: Eighteen (18) feet for residential use; Twenty four (24) feet for all other uses
 - 9(J)(1)(b) Maximum Grade: Nine (9) percent
 - 9(J)(1)(c) Maximum Length: Two hundred and fifty (250) feet
 - 9(J)(1)(d) Curb Cut: Not nearer than sixty five (65) feet from the centerline intersections of any Traveled Ways.
- 9(J)(2) In addition, the design shall, in the opinion of the Planning Board, assure adequate safety for emergency vehicles and shall provide for adequate drainage of surface waters.
- 9(J)(3) Alleys are not common driveways, and shall be constructed according to the standards described in Sections 6(B) and 9(B).

10. Required Procedures During Construction of Improvements and Detailed Material and Procedures Specifications.

10(A) General Construction Procedures.

- 10(A)(1) Reference to Standard Specifications such as "Specification 760" refer to the document, "The Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges", 1988 edition, as amended. To the extent that a Standard Specification is also described in these Design Standards, the Design Standards shall govern.
- 10(A)(2) To the extent that a specific standard is described in the 2006 MHD Guidebook and these Design Standards, the Design Standards shall govern.
- 10(A)(3) The extent of work required shall be as shown upon approved plans. Stakes shall be set which will indicate the exact amount of cut or fill.
- 10(A)(4) Offset stakes shall be set under the direction of a Registered Land Surveyor at fifty (50) foot intervals and at each sewerage and drainage structure and at each hydrant to indicate the location and the exact amount of cut, fill or grade.
- 10(A)(5) Improvements to minimize adverse environmental impact, if required, shall be installed in accordance with all details as shown on the approved definitive plan and all possible measures shall be taken during construction to minimize dust and erosion.
- 10(A)(6) No earth shall be removed from the area shown on a definitive plan except in accordance with the approved plan and in accordance with an approved Earth Removal Permit where required.
- 10(A)(7) As each construction operation is completed, it shall be inspected and approved by the proper Town authority prior to starting work on the succeeding operation.

10(B) As-Built Plans.

- 10(B)(1) At the time a subdivision or portion thereof is ready for acceptance and to facilitate acceptance by the Town of Kingston, the developer shall have prepared and certified by a Registered Land Surveyor a "Plan of Acceptance" drawn with India ink on tracing cloth, mylar or similar substance, size eighteen (18) by twenty-four (24) inches or twenty-four (24) by thirty-six (36) inches, showing widths, lengths, bearings of all boundary lines of Traveled Ways and easements and radii, tangents and central angles of all curves in Traveled Way lines. It shall show that all stone bounds have been set.
- 10(B)(2) A blank space, four (4) by eight (8) inches, shall be provided on the lower right hand corner of the plan for a title block to be filled in by the developer. The surveyor shall place a certification on the plan stating "The Traveled Way (or way or portion thereof) is laid out and the bounds have been set as shown on this plan" and shall be dated, signed and the surveyor's stamp affixed thereon. One (1) copy of the plan shall be submitted to the Board of Selectmen and one (1) copy to the Planning Board.
- 10(B)(3) The developer shall have the original plans and profiles that were submitted to the Planning Board and that are on file in the Planning Board office corrected and certified by his engineer to show the actual as built locations and grades of all utilities and roadway profiles and any changes authorized by the Planning Board.

10(C) Preparation of Traveled Ways.

- 10(C)(1) The roadway shall be graded and prepared for pavement as follows:
- 10(C)(2) Clearing and grubbing of the entire area of such Traveled Way shall be performed to remove all trees not intended for preservation, stumps, brush, roots, rocks or boulders and like material which may exist upon the surface; except that trees of aesthetic value and over four (4) inch caliper may be allowed to remain provided that they are located at least five (5) feet from the proposed side line of the finished roadway and are approved by the Tree Warden and the Planning Board.
- 10(C)(3) Roadway earth excavation shall remove all materials encountered down to the true surface of the subgrade, or to suitable material in areas where unsuitable material exists, in preparation for foundation of roadway, sidewalks, driveways and berms. Approved material obtained from the excavation may be used in fills as required if, in the opinion of the Planning Board, they are suitable.
- 10(C)(4) When, in the opinion of the Planning Board, suitable material is not available within the limits of the highway location to form the subgrade or sub-base, the contractor shall obtain such additional material from other sources in accordance with this section and as May be approved by the Planning Board.
- 10(C)(5) The subgrade surface, sixteen inches below the finished surface grade in Parkways and fifteen and one half (15 ½) inches below the finished surface grade in Primary and Secondary Traveled Ways, and Alleys, shall be prepared true to the lines, grades and cross sections given and properly rolled. All soft or spongy material below the subgrade surface shall be removed to a depth determined by the Planning Board and the space thus made shall be filled with special gravel borrow containing no stones over six (6) inches in their largest diameter.
- 10(C)(6) Gravel sub-base or foundation containing no stones having any dimensions greater than six (6) inches shall be spread in two (2) equal layers on the surface of the subgrade to a minimum depth of twelve (12) inches in conformity with requirements of Specification M 1.03.0. The first six (6) inches of gravel borrow shall be Type A as specified in the Specifications and the top six (6) inches shall be Type B as specified in the Specifications or shall be Reclaimed Pavement Borrow Material per Specification M 1.11.0. To assure compliance with the Specifications, the Planning Board may authorize, at the applicant's expense, a testing of the gravel by an independent testing company. Each layer shall be thoroughly watered, rolled and compacted true to line and grade. Any depressions that appear during and after the rolling shall be filled with additional gravel and re-rolled until the surface is true.
- 10(C)(7) Final grading, rolling and finishing including the shaping, trimming, rolling and finishing of the surface of the sub-base prior to application of gravel for surfacing of the roadway and base courses for walks or loam for berms shall be in accordance with this section as directed by the Planning Board.
- 10(C)(8) If the Planning Board determines that enough time has elapsed to make it desirable, a tack coat meeting their specifications shall be applied prior to the application of the second layer of gravel.

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- 10(C)(9) At the conclusion of this step the roadway shall be staked in all locations where permanent monuments are to be installed as provided in Section 10(I).
- 10(C)(10) The base and wearing surfaces of roadways shall be of Class I Bituminous Concrete Pavement, Type I-1, unless otherwise approved or required. The Type I-1 pavement shall be composed of mineral aggregate, mineral filler and bituminous material, plant mixed and laid hot.
- 10(C)(11) The pavement shall be constructed in conformity with lines, grades and typical cross-section shown on Site Plans. No such construction shall be undertaken before March 30th of any year, nor after November 1st of any year without written permission of the Planning Board Agent.
- 10(C)(12) The developer shall employ a qualified engineering company for services during the batching and placement of bituminous concrete paving. The engineer shall submit a 'Report of Bituminous Concrete Plan Inspection' providing Plant Information, Mix Information, and Extraction Results by % (percent) passing by weight. Thickness of Pavement, Mixture Field Specimens (ASTM D-3549) shall be provided for every thousand (1,000) lineal feet of road or portion thereof at locations directed by the engineer. Certified results of these inspections and test shall be submitted to the Kingston Highway Department and Planning Board Engineer.
- 10(C)(13) Pavement on Parkways, Primary and Secondary Traveled Ways shall be four (4) inches laid on in two (2) courses; the base course shall be two and one half (2.5) inches and the top course shall be one and one half (1.5) inches. Alleys shall be laid to a finished depth of three and one half (3.5) inches laid in two (2) courses; the base course shall be two (2) inches, and the top course shall be one and one half (1.5) inches.
- 10(C)(14) Embankments outside, within or adjoining the Traveled Way shall be evenly graded and pitched at a slope of not greater than two (2) horizontal to one (1) vertical in fill. Where cuts are made in ledge, other slopes may be determined with the approval of the Planning Board. Where terrain necessitates greater slopes, retaining walls, terracing, fencing, or rip-rap may be used either alone or in combination to provide safety and freedom from maintenance, but must be done in accordance with plans filed with and approved by the Planning Board. Whenever embankments are built in such a way as to require approval by the Planning Board, the developer must furnish to the Town duly recorded access easements free of encumbrances for maintenance of the slopes, terraces or retaining walls. All such slopes shall be grassed in accordance with the specifications for the area between the roadway and sidewalk or roadway and boundary of the Traveled Way.
- 10(C)(15) Loam shall be placed on all shoulders, embankments and other areas disturbed by the construction to a depth of four (4) inches. Grass conforming to Specification M 6.03.0 shall be placed at the rate of four (4) pounds per one thousand (1000) square feet, or such other ground cover as the Planning Board may approve.

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- 10(D)(2) Excavation for structures, including foundations for drains, sewers and water pipes, wells and other structures shall be made to the depth as indicated on the Definitive Plan or established by the Planning Board as appropriate. Rock excavation designated as Class B, encountered in trench excavation, shall be removed as directed by the Planning Board.
- 10(D)(3) All drain, sewer, gas and water pipes, underground utilities and other structures, including laterals which shall be installed from the Traveled Way line of each lot, shall be installed upon the completion of roadway subgrade and before the placing of the sub-base, gravel base course, sidewalks or pavement. If the pavement is removed, excavated or damaged, the trench shall be repaired in accordance with the Town of Kingston Rules and Specifications Regulating Traveled Way Excavations.
- 10(D)(4) Where adjacent property is not subdivided or where all the property of the applicant is not being subdivided at the same time, provision shall be made for the extension of the utility system by continuing the mains the full length of Traveled Ways and to the exterior limits of the subdivision, at such grade and size which will, in the opinion of the Planning Board, permit their proper extension at a later date.
- 10(D)(5) Water.
- 10(D)(5)(a) Public water mains and related facilities shall be installed to the standards of the Kingston Water Department. Hydrants shall be located as specified in Section 9(F).
- 10(D)(5)(b) Each hydrant shall be served directly from the water main through a six (6) inch lateral connection. It shall be gated with a five (5) inch bottom valve and shall have two (2) two and one half (2-1/2) inch hose outlets and one five (5) inch pump outlet. Water main valves shall be located in such number and locations that lines by individual block may be isolated for maintenance purposes.
- 10(D)(5)(c) Private on-lot water systems shall be located a minimum of fifty (50) feet from a septic tank, one hundred (100) feet from a leaching field, seepage pit and cesspool, ten (10) feet from durably constructed building sewer, and one hundred (100) feet from a privy. Such systems shall be constructed in accordance with Massachusetts Department of Public Health and Kingston Board of Health regulations.
- 10(D)(5)(d) Community-type systems or the joint use of wells shall be subject to the standards of the Massachusetts Department of Public Health and acceptance by the Kingston Board of Health.
- 10(D)(6) Sewerage. All Development Projects within the Smart Growth District shall be connected to town sewer or a private treatment facility approved by the State Department of Environmental Protection. They shall be designed according to professional engineering practices in accordance with the requirements and the standards of the Kingston Sewer Department.
- 10(D)(7) Drainage.
- 10(D)(7)(a) Drains and catch basins shall not be backfilled until inspected.

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- 10(D)(7)(b) Provisions shall be made to collect and remove silt from the drainage system during the construction period.
 - 10(D)(7)(c) The Board may also require provision for subsoil drains, along or near the edge of the traveled way in addition to the trunk line system, wherever, in its opinion, ground water conditions in the subsoil warrant such drains.
- 10(D)(8) Gas.
- 10(D)(8)(a) Gas mains shall be installed if gas connection is available unless said installation is specifically waived by the Planning Board.
 - 10(D)(8)(b) The Gas Company shall be notified by the developer upon approval of the Definitive Plan so that installation of gas mains may be completed without undue delay.
 - 10(D)(8)(c) If excavation is made after the subgrade is completed and inspected, the mains shall be backfilled and re-compacted in accordance with Specification 150.64(c) and the subgrade shall be re-inspected prior to the installation of binder course of pavement.
- 10(D)(9) Telephone and Electricity.
- 10(D)(9)(a) Telephone lines shall be installed in underground conduits in conformity with the Specifications.
 - 10(D)(9)(b) Electric lines shall be installed underground in accord with the regulations of the Commonwealth Electric Company.
 - 10(D)(9)(c) The Planning Board may permit transformers, switches and other such equipment to be placed on the ground in approved locations.
- 10(D)(10) Other Utilities.
- 10(D)(10)(a) Any and all wiring shall be installed underground and may be in the same trench with vertical and/or horizontal separation as approved by the Planning Board. Service shall be provided to each lot and each street light before the subgrade is prepared.
 - 10(D)(10)(b) Other utilities shall be installed in underground conduits in accord with Section 800 of the Specifications or as required by the utility company or department.
 - 10(D)(10)(c) Mailboxes shall be clustered at a location that is approved by the Planning Board and in accordance with postal regulations.
- 10(E) Sidewalks.
- 10(E)(1) All materials shall be removed for the full width of the sidewalk to subgrade twelve (12) inches below the finished grade.
 - 10(E)(2) Bituminous concrete sidewalks laid in two (2) courses, each of one and a quarter (1-1/4) inch, shall have thickness of two and one half (2-1/2) inch after compression, shall be constructed on a nine and one half (9-1/2) inch gravel foundation to the required lines and grades in accordance with the Specifications.
 - 10(E)(3) If the applicant prefers to install cement concrete sidewalks, they shall be constructed in conformity with Section 701 of the Specifications.

10(F) Bikeways and Walkways.

- 10(F)(1) For the length of each bikeways and walkway there shall be a cross slope equivalent to three-eighths ($3/8$) of one (1) inch per foot of width to provide for proper drainage. Leveling areas at intersections with sidewalks shall be shown in details.

10(G) Curbs, Edging, Curb Construction & Guard Rails.

- 10(G)(1) All Primary Traveled Ways shall have vertical curbing. Curbing may be either granite or precast concrete for roadways subject to a private maintenance agreement.
- 10(G)(2) Primary Traveled Ways that are not subject to a private maintenance agreement with a homeowner's association and which are intended to be put forward for acceptance as public ways at a Kingston town meeting shall have vertical curbing. Curbing shall be vertical granite at all intersections to the point of tangency and vertical granite or vertical precast concrete in all remaining sections.
- 10(G)(3) Curbing shall not be required on secondary neighborhood streets which abut preserved woodlands; nor in the case of single family attached and detached neighborhoods where the majority of residential driveways access the Traveled Way directly; nor in Alleys; nor where drainage swales or other non-structural stormwater management strategies are proposed.
- 10(G)(4) Where granite curbing is used, natural color variation characteristic of the deposit from which the curbing is obtained will be permitted. Sawed surfaces shall be thoroughly cleaned and any iron rust or iron particles or any saw mark in excess of $1/8$ inch shall be removed. Stones shall be Type VB and have a minimum length of 36 inches, minimum width at the top of 5 inches and minimum width at the bottom of $3\frac{1}{2}$ inches over $2/3$ of each stone length and depth of 15 to 17 inches. Stones used for closure pieces may be up to $1/3$ shorter than the specified minimum length. Stones set on a radius of 100 feet or less shall be cut to the required curvature and, except for marking closures, shall be a minimum length of 54 inches on radius from 25 to 50 feet or less. At drainage inlets, a gutter mouth of at least 3 inches in depth and at least 2 feet in length shall be cut in the front of the stone.
- 10(G)(5) The front face shall be at right angles to the planes of the top and ends shall be smooth quarry split, free from drill holes and with no projection of more than 1 inch and no depression of more than $1/2$ inch measured from the vertical plane of the face of the arris or pitch line for the distance down from the top of 8 inches.
- 10(G)(6) For the remaining distance there shall be no projection or depression greater than 1 inch measured in the same manner. The ends of all stones shall be square with the planes of the top and face so that when the stones are placed end to end as closely as possible no space shall show in the joint at the top and face of more than $1/2$ inch for the full width of the top and for eight (8) inches down on the face after which the end may break back not over eight (8) inches from the plane of the joint. The arris formed by the intersection of the plane of the joint with the planes of the top and exposed faces shall have no variation from the plane of the top and exposed faces greater than $1/8$ inch.

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- 10(G)(7) The finish and surface dimensions shall have a top surface free from wind, shall be peen hammered or sawed to an approximately true plane, and shall have no projections or depressions greater than 1/8 inch. The front and back arris lines shall be pitched straight and true and there shall be no projection on the back surface for 3 inches down from the top which would exceed a batter of 4 inches in 1 foot.
- 10(G)(8) Granite Edging. Where granite edging is used, edging stones shall be cut to the following dimensions:

Minimum length	2 feet
Maximum length	6 feet
Thickness	3 inches to 6 inches
Width of Face	11 inches to 13 inches

- 10(G)(8)(a) Minimum length stone shall be used on curves with a radius of less than 60 feet, except 1 foot lengths shall be used on curves with a radius of 10 feet or less.
- 10(G)(8)(b) The exposed face shall be smooth quarry split to an approximately true plane having no projections or depressions which will cause over 1 inch to show between a 2 foot straight-edge and the face when the straight-edge is placed as closely as possible on any part of the face.
- 10(G)(8)(c) If projections on the face are more than that specified they shall be dressed off. The top and bottom lines of the face shall be pitched off to a straight line and shall not show over 1 inch between stone and straight-edge when straight-edge is placed along the entire length of the top and bottom lines and when viewed from a direction at right angles to the plane of the face and for the top line only not over 1 inch when viewed from a direction in the plane of the face. The ends shall be square to the length at the face and so cut that when placed end to end as closely as possible, no space shall show in the joint at the face of over 1 1/2 inches, except that where the edging is to be used on a curve having a radius of 10 feet or less the ends of the stones shall be so cut as to provide a finished joint at the face section of not more than 1/2 inch. The arris formed by the intersection of the plane of the face with the plane of the end joint shall not vary from the plane of the face more than 1/4 inch. Drill holes not more than 3 1/2 inches in length and 1/2 inch in depth will be permitted. The sides shall not be broken under the square more than 4 inches and the side adjacent to the grass shall not project over 1 inch.
- 10(G)(8)(d) Granite edging shall be set in conformance with the current detail contained in the MassHighway Standard Construction and Traffic Details. The gravel foundation shall be thoroughly compacted before setting the edge stones. Additional gravel shall be placed and compacted as needed to support the edge stones. Edge stones shall be fitted together as closely as possible.

10(G)(8)(e) The concrete toe support shall be placed after the edge stones have been set to fill the space between the edge stones and the bituminous concrete base course. The top support shall be placed to the full depth of the base course and finished flush with the base course surface.

10(G)(9) Vertical Curb Construction (granite or pre-cast concrete) - Preparation

10(G)(9)(a) A trench shall be excavated at least 18 inches wide to a minimum depth of 6 inches below the bottom of the curb stones. The edge of the trench shall be 6 inches from the curb line to the roadway. Shape the excavation to a uniform surface and tamp.

10(G)(9)(b) Cement concrete shall be placed in trench so that curb sits on top of six (6) inches of cement with six (6) inches of cement concrete in front and back.

10(G)(9)(c) The curb shall be set on the foundation true to line and grade with the front face vertical with a 7 inch reveal.

10(G)(9)(d) Cement concrete shall not be poured on frozen or thawing subgrade.

10(G)(9)(e) For granite curbing, the space between curb stones shall be filled with cement mortar and point the mortar joints.

10(G)(9)(f) At driveway openings, the first piece of curbing on either side of the opening shall have a 45 degree bevel in the exposed end at the driveway end.

10(G)(9)(g) Guard rails shall be installed for safety at curves or filled areas as required by the Planning Board, in accordance with the 2006 MHD Guidebook.

10(G)(10) 'Cape Cod Berm' shall be twelve (12) inches wide and a minimum of four (4) inches high. The profile of the berm is subject to Planning Board approval.

10(G)(11) 'Precast Concrete Curb' shall be six (6) inches wide and 18" high and shall be composed of 3000 psi portland concrete cement. Installation shall be as specified for granite curb.

10(G)(12) In the event that the Planning Board waives curbs and berms, paved gutters shall be provided along each edge of the roadway where the grade exceeds three (3) percent unless otherwise specified or approved by the Planning Board.

10(H) Street Trees. See Section 6(B)(2)(d) for street tree requirements along Traveled Ways. In addition the following specifications shall apply to the installation, maintenance and warranty of street trees.

10(H)(1) All deciduous Traveled Way trees shall be clear of any branches from the approved grade level to a point seven (7) feet above ground level.

10(H)(2) The developer will be liable for all trees so planted as to their erectness and good health for one (1) year after planting.

10(H)(3) No evergreen trees such as pine, fir, spruce or hemlock are to be planted on an easterly or southerly side of a Traveled Way.

10(H)(4) Except as otherwise provided, all cut bankings shall be planted with a low growing shrub or vine and wood chipped to a minimum depth of six (6) inches or

seeded with a deep-rooted, perennial grass to prevent erosion. See also Section 10(C)(14).

10(I) Monuments.

- 10(I)(1) For all Traveled Ways to submitted to town meeting for acceptance as a public way, monuments shall be installed on Traveled Way lines at all points of intersections of Traveled Ways with each other and at all points of curvature, at all points of change in direction, at each point where the lot line intersects the Traveled Way right of way, at all corners of lots, at intersection of easements and lot lines and Traveled Ways and at all other points where in the opinion of the Planning Board, permanent monuments are necessary.
- 10(I)(2) Monuments shall be reinforced concrete marker of not less than three (3) feet in length and not less than five (5) inches in width and breadth and shall have a brass seal with the name of the installer. Said monuments shall be installed at the time of final grading with the top flush with the top final graded surface. Concrete bounds shall be reinforced with a one-half (1/2) inch diameter steel rod.
- 10(I)(3) Entrances to subdivisions shall not be marked by elaborate monuments.
- 10(I)(4) The placement and accurate location of these markers shall be certified by a registered land surveyor and properly located on the Traveled Way acceptance plans.

10(J) Traveled Way Signs.

- 10(J)(1) See Section 6(B)(1)(a)(v) for naming of Traveled Ways.
- 10(J)(2) Traveled Way signs shall be installed at each intersection to conform to the standards established by the Town of Kingston Highway Department and the Police Department.
- 10(J)(3) From the time of rough grading until such time as each Traveled Way is accepted by the Town as a public way, the sign posts at the intersection of such Traveled Way with any other Traveled Way shall have affixed thereto a sign designating such Traveled Way as a private way.

10(K) Areas Disturbed by Construction.

- 10(K)(1) Loam and grass seed shall be placed on all shoulders, embankments, and other areas disturbed by construction in accordance with the Erosion/Sedimentation Control Program, and the following factors shall be considered during all phases of construction:
 - 10(K)(1)(a) No larger area shall be developed than that on which construction can be completed rapidly so that large areas are not left bare and exposed for long periods.
 - 10(K)(1)(b) Grading shall be kept at a minimum. Where possible, only undesirable trees shall be removed.
 - 10(K)(1)(c) Runoff shall be controlled and conveyed into storm sewers or other outlets so it will not erode the land or cause off-site damage.
 - 10(K)(1)(d) Critical areas shall be protected during construction with mulch or temporary crop covers and with mechanical measures such as diversions and prepared outlets.

10(K)(1)(e) Sediment basins shall be constructed where necessary to detain runoff and to trap sediment during construction.

10(K)(1)(f) Safe off-site disposal of runoff shall be provided, including the increased runoff resulting from construction.

10(K)(1)(g) Permanent vegetation and erosion control structures, where necessary, shall be installed as soon as possible.

10(L) Maintenance of Improvements. The applicant or his or her successor shall provide sufficient security for the proper maintenance and repair of improvements under this Section during construction of said improvements and for a period of eighteen (18) months after completion of the construction of said improvements unless the Town votes to accept such improvements prior to the expiration of the eighteen (18) month period. Such maintenance shall include snow removal at the time of occupancy of an individual owner or tenant other than the developer.

10(M) Cleanup. Any area disturbed by the construction and all rights-of-way shall be cleaned up so as to leave the area shown on the Plan in a neat and orderly appearance free from debris, tree stumps, loose rocks, and mounds of dirt or other objectionable material. Seeding of these areas may be required by the Planning Board. On-site burial of rocks, stumps or other debris take place only with the approval of the Planning Board.